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These findings suggest that the use of a single, standardized, and validated measure of self-esteem may not be sufficient to capture the complexity of self-esteem in the workplace. Future research should explore the use of multiple measures of self-esteem to better understand its role in organizational behavior.

an acre and one of them. Dr Alexander Brown
the was killed a knight-errant engaged in 1800
when a Civil Commission was appointed to inquire
into the state of the civil hospital. It seems
likely that the Commission consisted of members looking at
how we conduct our business. There would have
been some very rapid presentation--in perhaps the
Director would be how have been slow steps in

the area. Whatever else is a hospital that, as in those
early days, there has been enough evidence for a
while and it will show the possible for us to apply a
period of stability. In taking up the appointment as
Hospital Director. But Christian Miller will state
that building of the new management system is to
have a few changes. The patient appears in our
hospital with our best wishes for the success.

Non-freezing cold injury: the pathogenesis

T. J. R. Francis and P. St C. Golden

In the first of these two articles¹ the history and presentation of a variety of forms of non-freezing cold injury (NFCI) were discussed. In this paper we discuss its pathogenesis, starting from molecular gene products and extending through cellular, molecular, and systems biology, to the whole organism, and particularly the vascular and cellular responses to cold exposure, those of injury. The paper attempts to analyse these aetiological factors with the pathological consequences of NFCI and proposes a tubular pathway involving three possible reactions.

THERMAL BALANCE IN THE NORMAL FOOT

The temperature of the foot, as with any body organ, is dependent on a balance between heat gained, stored and lost. In the case of the foot, with over 50% of its mass being composed of skin, subcutaneous tissue, fat, bone and tendon,² and hence a negligible input of locally generated metabolic heat, its thermal state depends almost entirely on local blood supply. Thermal balance problems for the foot in cold environments are compounded by the large surface area to mass ratio, the small amount of metabolic infrastructure in it, and the fact that normal blood supply flows close to the surface.³ All these factors combine to make the foot particularly vulnerable to cooling, even more so when immersed. As the specific heat of water is 1.000 cal/g, and the thermal conductivity 24 times that of air,⁴ an immersed foot will cool equally as water submersed, steadily expending energy from the relatively large surface area of a wet foot and quickly exceed the heat capacity of the foot tissue of blood supply and metabolic heat output. Inadequacy may modify the rate of cooling, but ultimately foot temperature is dependent upon the balance between blood flow and heat loss.

THE CONTROL OF LOCAL BLOOD FLOW

The local mechanisms controlling blood vessels are extensively reviewed by Karsner and Hansen.⁵ Regional control is primarily mediated by sympathetic vasoconstrictor nerves with vasodilation in the splanchnic.⁶ This leads with the exception of blood vessel smooth muscle and results across some differences in vasodilation as vasodilation, the peripheral mechanism for its removal from response is supplied by the splanchnic nerve endings. Arterio-venous anastomoses are generally weak but may reach from the vasodilation of both β adrenergic and acetylcholine receptors on the blood vessel smooth muscle. A more powerful vasodilator influence is low pH particularly when caused by a raised PCO_2 which easily diffuses across cell membranes, producing a fall in intracellular pH. It is thought that vasodilation under these circumstances results from a direct effect of low pH on smooth muscle contraction.⁷ However, presumably by reducing the amount of ATP available for muscle contraction, also causes vascular smooth muscle to relax. However, others do not buy all this going to accept, considering complete cases of coronary heart disease, pointed that glucose is available to regenerate ATP by anaerobic metabolism.⁸

Cold has a direct action on blood vessel walls that results in prolonged vasoconstriction. The exact mechanism is unclear but is thought to involve an increase in cytoplasmic Ca^{2+} resulting from binding of extracellular Ca^{2+} ions with and release of Ca^{2+} from intracellular stores.⁹ An additional effect of cold is to reduce the rate of uptake and breakdown of noradrenaline in the nerve ending, resulting in prolonged vasoconstrictor stimulation. Finally, the effect of cooling blood is to make it more viscous, thus with further reduce blood flow to a cooled foot as measured with Plethysmography.¹⁰

majority, and this pattern has been repeated. Beyond that we released a lot of blood transfused in 1989 when 4,000 Communists were appointed to major units of the state hospitals. If recent soldiers had been a common occurrence looking at how we conduct our business. There would have been some very rapid responses—or perhaps the Director would be able to have even fewer things to

do. But we certainly do things with them down, early days. That has been enough for them, for a while and it will now be possible for us to enjoy a period of stability. It takes up his appointment as Surgeon General. For General Mollat will need that stability if the new management system is to have a fair chance. His position appears as our Secretary with our best wishes for his success.

Non-freezing cold injury: the pathogenesis

T. J. R. Francis and F. St C. Golden

In the last of these two articles¹ the history and presentation of a variety of forms of non-freezing cold injury (NFCI) were discussed. An analogy was drawn to its multifactorial aetiology. Non-vascularized parts, parietal and genicular bones—elbowpits, olecranon, malleoli, heels, etc.—particularly those covered with hairy skin—were particularly at risk of injury. The paper attempts to combine these aetiological factors with the pathological consequences of NFCI and propose a coherent pathway leading to the possible outcomes.

THERMAL BALANCE IN THE NORMAL FOOT

The temperature of the foot, as with any body organ, is dependent on a balance between heat gained and heat lost. In the case of the foot, and over 40% of its mass being composed of skin, cutaneous losses (in, heat and water²) and hence a negligible input of locally generated metabolic heat, its thermal state depends almost entirely on local blood supply. Thermal balance problems for the foot in cold environments are compounded by the large surface area to mass ratio, the small amount of cutaneous vasoconstriction for, and the fact that thermal blood supply flows close to the surface. All these factors combine to make the foot particularly vulnerable to cooling, even when no other measures. As the specific heat of water is 1000 times that of the thermal conductivity of tissue, that of an 'on surface' foot will cool rapidly as water temperature, initially, drops—ice forming there due to the very large surface area of a wet foot will quickly exceed the heat capacity of the foot: normal blood supply maintains an heat sink, maintaining any cooling due to cooling, but ultimately this temperature is dependent upon the balance between blood flow and heat loss.

THE CONTROL OF LOCAL BLOOD FLOW

The local vasoconstrictor-constricting blood vessels are reflexively initiated by Katsura and Horita.³ Peripheral control is principally mediated by sympathetic vasoconstrictor fibres with noradrenaline as the transmitter. The hands with the α -receptors that bind to smooth muscle initiate and maintain vasoconstriction. Although some vasodilators are available, the principal mechanism for cutaneous flow response is to equalize the skin temperature surface. Again vasoconstriction is greatly affected by any input from the vasodilation of hand β -receptors and methylcholine receptors on the blood vessel smooth muscle. A more powerful vasodilator influence is low pH, particularly when caused by a raised $p\text{CO}_2$, which readily diffuses across cell membranes producing a fall in intracellular pH. It is thought that vasodilation under these circumstances results from a direct effect of low pH on smooth muscle myosin.⁴ Hypoxia, presumably by inhibiting the release of ATP available for muscle contraction, also causes vasodilation through mechanisms whereby stimuli do not lose all their ability to potentiate, even during complete cessation of many basic stimuli, provided that glucose is available to regenerate ATP by anaerobic metabolism.⁵

Cold has a direct action on blood vessel walls that results in prolonged vasoconstriction. The exact mechanism remains unclear, but it thought to involve an increase in sympathetic Ca^{++} coming from leakage of extracellular Ca^{++} into cells and release of Ca^{++} from endoplasmic reticulum. An additional effect of cold is to reduce the rate of uptake and metabolism of noradrenaline at the nerve ending, resulting in prolonged vasoconstrictor stimulation. Finally, on effect of cooling blood is to make it more viscous: this will further reduce blood flow in a cooled foot in accordance with Poiseuille's law.⁶

From the above account it might be expected that some adaptation to local cooling, vasoconstriction would occur and the temperature of the foot would steadily fall until the temperature of the superficial tissues reached that of the surroundings. This is not always what actually occurs. Lewis was the first to demonstrate a phenomenon that has come to be known as 'cold induced vasodilatation' (CIVD). He observed that if a finger is immersed in cold water ($^{\circ}\text{C}$) following an initial fall there occur intermittent rises in skin temperature of variable degree and duration. This 'cold effect' has been observed at 1040.¹⁴ Poye's series of observations, Lewis concluded that this likely mechanism for the response was a local nerve effect mediated by the axonodilator innervation of an H reflex. Lewis (personally Kerridge)¹⁵ has demonstrated that cold perfusion of blood vessels occurs before a final temperature of about 11°C and that the preceding rise vasoconstricts vessels related to it. A more likely explanation of the phenomenon of CIVD is the question is as to whether the onset of CIVD can be delayed or inhibited by causes the level of local sympathetic activity is decreased.¹⁶ It would now appear to be accepted that CIVD is not directly related to onset and of blood supply, it is completely inhibited, or the presence of high levels of vasoconstrictor tone.¹⁷

There are a number of references to vasoconstrictor tone upon time 1042. One set of observations on the soldiers on the battlefield, Lewis, as reported by Lewis such as pain, the sensation of pain itself and more have been demonstrated as result as peripheral vasoconstriction particularly of the skin.¹⁸ Increased sweating of hands and feet associated with stress will compound the local cooling. Hyperventilation, once initiated by nasal B type receptors, results in a reflex sympathetic outflow and peripheral vasoconstriction.¹⁹ Delayed onset might be expected to have a similar if lesser effect although no major influence will be produced through the increased vasoconstriction blood economy. Hyperventilation is well known as such as cold symptoms, and although there is some question as to its effect on blood flow rate individuals subjected to high levels of studies.²⁰

One further factor regarding mental peripheral vasoconstriction should be considered at this stage and that is the relationship between individuals in their various reactions to cold. Bergman et al.²¹ demonstrated a significant difference in digital blood flow responses in response to cooling when compared to severely restricted vascular responses. The group had analysed forearm response and developed three tissue temperatures in response involving local sensation in cold

water. Brown and Page²² showed that soldiers maintained higher local blood flow and skin temperature in that case than occurred. Even when an ethnic group, Natives and Negroes²³ found that CIVD occurred earlier and to a greater extent in both Natives than Caucasians and the latter had a skin temperature as compared by his throughout the cold immersion. These model theories appear to be completely different in similar situations, to cold between men and within ethnic groups. Brown and Page concluded that an explanation of these observations was not of adaptation to a local environment. Natives and Negroes also emphasized the differences between skin blood flow and sensation was evidence for vasoconstriction, although an alternative explanation that skin blood flow and a self-sustaining group perhaps on their ability to regulate cold, is difficult to refute. It may be that the Natives have adapted to the pain of the cold and that Natives may demonstrate consistent reduction involving forearm which may support the effects of local CIVD in the vessels.

Whenever the explanation of these differences in vasoconstrictor responses appears to be related to a number of factors, consider that they combine with a susceptibility to cold injury.²⁴⁻²⁶

Finally, an important factor in the variability of susceptibility to frostbite which should not be lost sight of in looking at local responses in cold is the great individual variability in rate of body cooling. Individuals who are generally warm are less likely to develop local cold injury than individuals who may be exposed to the same environmental stress but who are generally cold.

THE PATHOLOGY OF NICO

The next attempt to explain the pathology of NICO is the case which occurred in Smith, Risher and Demore.²⁷ These conclusions were based upon the clinical examination of tissue examined in the UK during the First World War and subsequent research in the lab.

It was not until the Second World War that detailed investigation of human pathological specimens was made. Two papers on the subject^{28,29} illustrate some of the problems involved with this type of investigation. An assumption is a number of late cases in the management of NICO, the only early cases described were in troops in men who had died from hypothermia.³⁰ 18 days after their exposure to cold.³¹ The above specimens concerned with all of temperatures from active cases in Finland's study.³² A similarity was the finding of tissue occurred between the same cases, he said the Finnish's cases.³³ Finally a number of cases including all of the lowest had a tissue

open brain preparations by reflection have a many of their findings are applicable to question 1, it therefore not surprising that, although there is a large measure of agreement, these authors disagree on the changes that occur in certain organs: lungs, liver and blood vessels. While Blackwood emphasises pulmonary embolism as a feature that can occur in NPH, Friedman observes frequently. Additionally, although both authors found evidence of extensive degeneration of nerves, Blackwood considered that large, myelinated fibres tended to survive and that small fibres degenerated and autophagocytosed. Friedman, on the other hand, considered that it was the small myelinated and unmyelinated fibres that tended to survive and 'regain' the lost myelination in nerve regeneration. Unfortunately, the effect of subdipping both nerves and blood vessels in one of the most important is one of the most troublesome comparisons in a surviving cold autopsy.¹¹⁻¹² The various phenomena will be discussed in detail below.

There is less disagreement on the pathological changes in other tissues compared with NPH. For degeneration early and is followed by Brown tissue. Much more extensive degeneration, necrosis and fibrous scarring involving a of tissues which compared to it, occurs in upper respiratory tract in chronic degeneration.¹³ It is thought that molecular atrophy and extensive fibrous scars in the completion of the rigidity and follow which that are classified as 'brown tissue' and the processes give the very microscopic these changes.¹⁴ Degeneration occurs early, probably as a consequence of vascular disturbances, however, late time to maintain clearly defines the first stages of several autophagic appearance in subdipped rats.¹⁵ Another signal to NPH is chronic neurodegeneration. This may be a consequence of vascular insufficiency in hyperbaric.¹⁶

NEURAL INJURY IN RESPONSE TO COLD

As has been outlined, there has been disagreement on the susceptibility of nerves to different rates rate in injury by cold. In addition to the contrasting views, there are at least two views: "which failed to identify any work neurophysiology. DeLong" points out the considerable differences reported in the type of injury in the changes of electric neurophysiology that results of their looking work.¹⁷ "could tend to ignore the findings of Friedman" and DeLong. Brown et al.¹⁸ that a large experimental there that is relevant neurophysiology in injury by cold. Experiment on an acute nerve by Blackwood¹⁹ showed that Group I there were more susceptible to cooling with a slow blockade of conduction normally after 4 min at 13 °C in Group III there,

conduction was totally blocked after 4 min at 13 °C, while in Group I there a block 15 min at 13 °C in block conduction. Physiological changes occurred in swimming in the nerve under the Group I there recovered first and Group II last. Physiological changes reported in the related to the changes for which the nerve were and in the related case, the experiments showed that after, despite large and recovery after cooling a slowly developing physiological changes that occurred in the nerve after cooling, large fibres involving damage to both nerve and myelin. Incomplete work by Matsuda et al.²⁰ showed that there also sufficient needed to be opened while the large myelinated fibres showed severe general degeneration. In the presence of a sufficient cold stimulus, however, all nerves are vulnerable regardless of their diameter.

The mechanism for this injury is far from clear. Hypothetical or al considered a likely that subdipping plays a role in cold-induced nerve injury. In an attempt to demonstrate the failure of al derived in animal model based on the dorsal root fibroblasts to nerve. By measuring nerve PO₂ while subdipping, once freezing injury they concluded that significant nerve hypoxia occurred. The exact electrical recovery on swimming suggests that reversible functional changes does not occur during cooling but, in Gillet's²¹ suggests something happens after warming which that the appearance of subdipping injury produces further damage.

Despite the physiological and pathological changes in large myelinated nerves, the involvement of numerous fibres in NPH is of particular importance. From clinical descriptions of the conditions—particularly that of Unley and Blackwood—the hypoxemia and inhibition of the hyperbaric stage of the conditions followed by the cooling, hyperbaric and cold recovery of the post-hypoxemia stage are similar to the effect of 'post-hypoxemia' syndrome, degeneration, fibrosis and 'fibrinoid' showed the sequence of events that occur following injury to sympathetic fibres. In summary, it would appear that following nerve damage, nerves of the timing and body of the nerve maintain an local response. The length of the nerve period between injury and the onset of degeneration phenomena appears to be related to the length of the nerve injury. It may also be related to the rate of degeneration. As the end of this paper period, the degeneration nerve towards nerve placement by an acute release-dependent event. In subsequently early cold injury is significantly to determine that develops in comparison with a gradually increasing degeneration of the in subdipped of an animal model. It can be seen that the hypoxemia stage of NPH

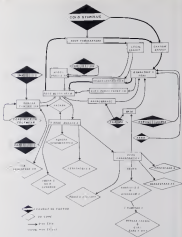


Fig 1. Subsystem diagram with logic developed before the production of WFC1 work product consequences.

would correspond to the latent phase following desaturation where, in the absence of ventilated apnoea, but normally fast oxygen sensor response, oxygen levels reduce and vascular tone would rise. Signs of vasoconstriction would usually be noted on admission. With the onset of desaturation hyperventilatory apnoea in the post hyperventilatory stage would terminate.

The length of the post hyperventilatory stage will depend upon the speed and accuracy with which regeneration of damaged sympathetic fibres occurs. This appears to be variable.¹⁻³ and, again, might be expected to be greater in mild injury compared to more subsequent deterioration expected in cold could also represent the cause of the variability in recovery between individuals.

A PROPOSED MODEL FOR NEW FRONTAL COLD INJURY

The above data provide the basis for proposing a mechanism for the cause and sequelae of NFPC, which is illustrated in Fig. 1. It is to be noted that in the course of the recovery to a normal state of cooling and vasoconstriction that in the presence of a high level of sympathetic tone in man leading by CTRD, ANS is sufficiently damaged that, in fact, there is no vasoconstrictor response for the many manifestations of NFPC, in fact, post-mortem data efforts to control this could not be any longer observed. Such attempts will only be a barrier to the natural course of the healing.

Autonomic dysregulation

The acute effects of FOMIA, Wernicke in preparing the Cause in short notes are probably unacknowledged.

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Training in Occupational Medicine in the Royal Navy—A personal view

D. S. Wright

Synopsis

This paper is based on a presentation to the Ninth Occupational Medicine Conference in March 1984. While the paper was intended primarily to members of the occupational medicine specialty, it covers the historical background of this specialty and discusses training at occupational medicine, occupational medicine and occupational health for all those outside the specialty. It concludes that recognition of the specialty in the profession is important in that it demonstrates a continuity of interest in this group of workers.

INTRODUCTION

Training in occupational medicine in the Royal Navy is a modern creation. Recognition of occupational medicine (OM) as a specialty by the medical profession, with the establishment of a Specialist Advisory Committee (SAC) by the Army (Committee of Higher Medical Training, CHMT) and the formation of a Faculty of Occupational Medicine (FOM) of the Royal College of Physicians of London, has led some to believe that the specialty is growing, now—and therefore may prosper. Occupational medicine in the Royal Navy can trace its origins back to Charles Crofton as the 'armaments sanitary' and formal training at the specialty was disrupted by the war, then back over one hundred years.

NAVAL HYGIENE

Senior Captain Thomas Shaw was Professor of Hygiene and Director of Medical Studies at the Naval Medical School, Greenwich, in 1908 when he published his book *Naval Hygiene*¹. In the preface, the Medical Director General (Naval) wrote: 'The study of Hygiene is a public duty of every person who has to make a rational decision and recognize that the science of Hygiene, and especially naval hygiene as discussed, not only tends to prevent disease, but also tends to prevent all lowered state of health

Some states that from 1870 Naval Medical Officers were required to undergo general training in the subjects of general medical and hygiene. In that year a Professor of Naval Hygiene was appointed, usually to the Army Medical School, Netley. In 1911 a naval medical school was established at Haslemere and the students moved to Greenwich, and the professors moved with the school. At the time when Shaw was writing, preventive medicine was considered so important that all medical officers were required to attend a two months' course in the subject before taking the examinations which led to the post of junior permanent in Hygiene Commanders.

Obviously the emphasis of Shaw's book on naval hygiene is on the great dangers of infectious diseases. However, he deals at some length with topics such as hearing, lighting, ventilation, drainage, food and medical standards. He warns of the danger of smoking cigarettes and suggests that pipe smoking is preferable and should be encouraged. Although the majority of his book concerns public health issues, Shaw refers also to food poisoning, as learnt from working and botching, and shows the need for special infection precautions for particular occupational groups—men serving on submarines, submarine doctors in hospitals, the Fleet Air Arm and divers who worked on—and shore in a submarine from a platform.

Since Shaw's time developments in medical practice have led to a shift in emphasis. Deep infections due to a degenerative disease on one hand, and the same viral infectious diseases from blood donors (particularly by failure to screen) and all kinds of work and life facilities change in the emphasis of the low time control of preventable diseases. The *Practical Aspects of the Working Conditions of Individuals under the Health and Safety at Work Act*². This change of emphasis has brought occupational health in the Royal Navy

spider much closer to us. However, this pressure had considerable impact on the old age MDG (May), in contrast with other Government departments in regard to the Health and Safety at Work Act. With a population of 100,000 for the majority under the age of 40, and 100,000 which leaves behind no people to work, it is not surprising that the Ministry of Health Policy has shifted away from education towards the towards social or degenerative conditions but towards occupational health.

One of the main aims of the Ministry of Health is to provide health, rather than public health. The past decade, nevertheless, there is still great reluctance in many of these public health agencies and there is a danger that they may be neglected. The provision of safe drinking water, safe and reliable systems of waste and power disposal, good ventilation and a healthy, well-insulated and sound of cold temperatures, continuous or effective lighting force, and a may well be that the 100 million children should have more training in what goes comes under the umbrella of occupational medicine than the rest of the present. In addition, however, are involved in the maintenance of the administration of health services (which is 100% of the upper part of the development of administrative skills if we are to extend a few days of professionally limited resources for the Medical Service and not to use these resources effectively. For this to be achieved we will have to ensure that our administration are trained effectively. There is also a need for training of social medical officers inside the hospitals in order which do not have nearly within the sphere of formal training programmes in occupational medicine. While such training is outside the scope of this paper, it adds further consideration.

DEVELOPMENT OF A TRAINING PROGRAMME

Training at occupational medicine in the Royal Navy must be considered not only in the context of the role of the profession but also in relation to developments within the medical profession as a whole. One of the principal developments in the profession in recent years has concerned training. Every doctor is now a graduate with a formalized programme of postgraduate education following the completion of a primary medical degree. The importance of this to each medicine is as is provided in the RSC but it seems to be agreed that doctors, but in addition the medical profession for medical officers in the RSC in 1984 they conform to the training requirements of the profession. This is not a question of training doctors in primary or the NHS or elsewhere outside the framework of training

that the real value perhaps is normally recognized this relationship of the professional and not one leaving behind professionally and very short-termity is to be prepared to produce a level of quality of service. This may be the case if we do not recognize all medical officers to be doctors and professional training, which is a system which is recognized and accepted by the profession in a whole (in occupational medicine, the professional requirement of support by the Faculty and by the RSCMT rather than attempting to develop a separate specialty with a role such as Medical Medicine. Such a specialty might combine some aspects of occupational medicine and public health with some occupational medicine and some clinical work. However, it would have the greatest difficulty in achieving recognition by the profession generally, even if it appears to improve return for those who practice medicine outside the hospital in the Royal Navy.

In 1976, a comprehensive study took place of training needs in occupational health and safety medicine. This involved visits to a large number of naval establishments, in the working party recognized that the importance of training and the need to be maintained had to be recognized before identifying educational needs. In a lengthy report the working party made some fundamental proposals. It advised training together in one group, the occupational group of Aviation Medicine Hygiene (Prevalence & Infection Medicine) Physiology (which in that time was mainly a group of those working on research in aviation and underwater medicine) and Submarine & Marine Medicine which was the specialist group which had grown out of the development of the aviation submarine. It was proposed that all those carrying the combined occupational health specialty should attain the basic postgraduate qualifications of the title in occupational medicine and occupational medicine were made for a medical training programme.

The original training programme was devised without the benefit of advice from the Faculty (which did not exist) and it is a tribute to the members of the working party that they came to work a package closely resembling the current programme which has been developed in cooperation with the Faculty and the RSC. However, there are some fundamental differences. In the original concept medical officers were to be allowed to the training in the specialty in a very early stage and mostly men, required to spend a period in a developed stage of their general professional training (GPT) time. Since then GPT has been clearly identified as a minimum of 3 years spent

gaining general medical experience rather than specialist experience is approved GIM training even. A HART approval is required in cooperation to Senior Registrar training, training and education that most medical officers should come approved prior rather than three years after appointment. This will not guarantee that early appointments for doctors are not general duty posts at sea, establishments or with the British Regt. at naval establishments or with the Royal Marines. Such posts are not requested for the purpose of GP vocational training or for the MRCP. However, it may be possible for the first 1-4 years post appointment period on certain duty posts in hospital or GP appointments, which are not requested, and a, very officers have obtained the MRCP or MRCPGP before entering higher specialist training in occupational medicine. While DPT the occupational medicine will clearly be an appointment approved for the MRCP or for vocational training. Aerial appointments for a few and in doing so (continuous) are assigned by the JCRMG.

TRAINING THE NON SPECIALIST OCCUPATIONAL PHYSICIAN

While the specialist occupational physician is concerned with a programme of General Professional Training and Higher Specialist Training, there are many other sets of medical officers who may not need or wish to be specialists in general medicine in the Royal Navy outside the hospitals. They will all need some training in some aspects of occupational medicine but need not undertake the full training programme. There are several varieties of medical officer who may be considered in this context.

Firstly there are the applied physiologists. Grouped in the DPT group with the specialist occupational physician they now form a separate sub-discipline with a different approval scheme (category). The medical officer must say what they think should be done in their appointments in an early stage and may be unable to complete the GIM training schedule. This applies to training, it is usually where a post-graduate approved GIM period that it may be appropriate for some to continue. One experience here in these cases is further GIM training. Probably in the description of posts is essential to create the opportunity for non-specializing roles in the occupational specialties of applied physiology and occupational medicine and some officers will think a dual qualification.

The next group are the general practitioners—more who complete, General Practice Vocational Training. Perhaps the ideal non-hospital naval medical officer will complete this training before

undertaking higher specialist training, in GIM, then assuming a general duty post and post-graduate medicine, background. The shortage of approved vocational training posts in the RM makes this objective difficult to secure.

In the Royal Navy there is no explicit career structure or advancement for medical officers. There are manufacturing processes towards specialist training in health care planning and management, and in the more demanding demands for efficiency, in the use of resources and the establishment of a new service delivery in which most officers from the Army and Royal Air Force will have had training and experience, in administration. The Royal Navy may need to give further thought to training in the management of health services. It is unlikely to be able to achieve this without the GIM training programme and developments in community medicine will need to be followed in view of training in that specialty may be appropriate.

Whatever the future of general duty medical officers or GPs, all non-hospital naval doctors are engaged in a greater or lesser degree in occupational medicine and need some training in it. Much of the New Entry Medical Officers' Course is an introduction to occupational medicine. Changes have been made to this course which should make them in this area of medicine that they are entering a medical profession which is a complex combination of primary care and occupational medicine. Their training in this post is largely a matter of theory but they will inevitably have had some training in general principles in occupational medicine. The course from the 11 years of the very best type, is occupational medicine knowledge before, among them about what it is and within the limits of occupational reports were allocated to their medical colleagues.

There is, at present, little opportunity for the non-specialist in fact, in their training in occupational medicine. They are mostly contented and much will vary for different roles, posts, and different posts. The Naval Medical Officer of Health then plays a key role in identifying such needs and arranging for them to be met. As Commanding Officers of establishments, have important obligations, under the Health & Safety in Work Act, and have the right to request competent professional advice and assistance from their PMOs. Medical officers in establishments have a heavy burden, responsibility of the primary care physician in the next day. The need, often in these to develop or serve as intermediaries in the most directly of their functions, but there are limitations and training present support in a wide variety of potentially hazardous situations and environments every day and the medical officer has obligations to them which

by men who undoubtedly are not in *shape*. The Warlike Halling is a Work Out plus a challenge to the individual to perform well above the norm so that when they may be required to work and also perform in combat situations. Medical staff in training establishments have a vital role to play in this—how their own training or performance in this area may well be lacking. There are many aspects of O&M training for the non specialist which need to be addressed in the training course of health and safety education amongst general medical staff in the hospital. It is difficult to see how this demand can be met without additional resources.

SPECIALIST TRAINING

In order to achieve maximum value the experienced physician must complete a four year programme of Higher Specialist Training. To qualify for the Fellowship of the Royal Society of Medicine (FRSM) he or she should also successfully complete the examinations and the programme necessary to become a Member of the FRCM and give competence as a Specialist in O&M to the FRCM. While the Professor of Royal College, Royal Medicine acts as the link between the medical occupational physician and the professional bodies concerned with approval of training posts and programmes, it is essential that specialist training as a career is fully recognised in the training programme and that students are themselves fully conversant with the training system. It is especially vital in so widely and flexibly related subject the medical career is so essential that each member plays an active role in creating the record of training—and in ensuring that these records not only comply with the demands of medical education but are fully equipped to meet the medical medical task.

The Royal Army O&M training scheme currently consists of students through, served as many years with a period of medical training. While it would be possible to complete the training programme by spending four years in a post approved for a full four years training, as practice is in postgraduate to ensure that medical officers have a wider range of experience than a single appointment would allow. The academic training with suitable courses to support a satisfactory knowledge of the theories of occupational medicine. The combination of academic and practical experience should ensure that standards of O&M practice within the Royal Army are at least as high as those of medicine. There are currently 13 RM posts approved for training by the JCMMT and two further posts

which are training posts by the SAC. These 15 posts are shared as Table 1 together with the Accreditable Value. This is the area where there is shared events meeting in with post—no entry can be made into full time work in a specific post. There are two limitations and the SAC makes it necessary to spend more training under general occupational medical experience.

One, a career begins Higher Specialist Training in a hospital in the UK but training is completed with the FRCM. Because welcome changes in the experience will reflect the progress of training for the profession and the whole four year programme can be completed in the course. Key changes must be made to the Faculty by the training (through the Professor) Training entry into the AFPM programme at any stage during training—that should be noted that, considerable study is needed in part the process involves making the changes to a programme of study to include practice with medical staff and community work in rural practice. The examination also includes a period covering a number of O&M practice which will be discussed in the next. After successful completion of this hurdle, approval for the AFPM staff is given to complete studies in a research period and submit a written thesis or substantial published work. The paper then be in a written reference to O&M and candidates may be asked for an interview in the future. The academic transfer to AFPM staff and then by an interview—end it will be the case for an individual to have a four year training programme which is not necessarily more the total time for the practice duration.

Approved posts in a locality by the JCMMT also involves a four year training programme. The Faculty and the JCMMT have worked hard together to ensure that the training programme for one of the three of the other and possibly the same year.

The final hurdle for the Service consists in the AFPM. This board is currently chaired by the Professor of Occupational Health in Manchester University and the three Service Consultants (Advisory and Civilian Consultants) with members. There is also a representative from the DHSS. The AFPM is required to study staff that the system is acceptable in the preparation of the civilian post prior to the requirements of practice training, experience and personal qualities. It is so as outlined in a number of the meeting, all the relevant papers, the AFPM will approve the appointment of a candidate by the Defence Council or the recommendations of the appropriate Director of Medical Services when a vacancy arises.

provided is high—and the course for its delivery the quality of training is high. To achieve this is the responsibility of all members of the specialty and not merely the function of the Professor of Naval Occupational Medicine—the descendant of the Professor of Naval Hygiene appointed over a hundred years ago.

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The Telfer osteotomy for hallux valgus

M. A. Farquharson-Roberts and A. H. Osborne

Summary

One hundred and twenty-two of hallux valgus are presented all of whom had severe to gross medial eminence osteoarthritis which has been described as stage 3 or 4 by A. C. Haller. Results were

good with correction of any medial eminence and marked repetitive relief. The procedure may be applicable in the majority of 44 years or less.

Introduction

Over 70 operations have been developed on the medial eminence of hallux valgus (Fig. 1). The majority of these procedures were designed for the middle aged and elderly. Few are suitable for the young, who commonly present with such problems in the Royal Free.

Unilateral osteotomy

D. M. Wilson in 1940, noted several bone methods by which hallux valgus might be corrected unilaterally. These included the unicondylar who also noted aspects of the first metatarsal head in contact with accompanying lateral capsule release. It is now reserved for the elderly who may be unable to tolerate bilaterally after more major surgery.

Arthro osteotomy

Keller popularised arthro arthroplasty with removal of the head of the proximal phalanx, extension of the medial side of the first metatarsal head including osteotomy of soft tissue around the phalanx stump. It has a definite risk of the elderly with poor valgus deformity degenerative changes arise, first metatarsophalangeal joint and secondary deformities of the foot, even. It has no place in the treatment of the young and active.

The union technique

Union technique operations are based on the correction of subluxation between and fusion between. McBryde transverse mainly from the phalanx and ligament removed in the first metatarsal

Anteroposterior

Anteroposterior of the first metatarsophalangeal joint is applicable in the presence of degenerative changes at the joint, being preferable to a Keller's procedure in the middle aged. The angle of arthroplasty must be used to prevent transverse ligament. Severe deformities may be corrected and also later compensated by the use of the metatarsophalangeal joint.

Unilateral osteotomy

Unilateral osteotomy does not interfere with the metatarsophalangeal joint and is ideal in the younger patient with no degenerative changes here. All the various procedures stress the importance of phalanx phalanx displacement of the metatarsal head to prevent transverse ligament. All forms of extension the shortening of the metatarsal with lateral displacement to produce narrowing of the foot. The



Fig. 1 Clinical treatment of severe hallux valgus.

Maxillo-facial prosthesis, of 1949 war, usually very popular but suffered the disadvantage of producing a small dental fragment which required careful cleaning, and the shifting of bones to other stable position by means of a screw.

The Wilson operation, first described in 1942 had the advantage of a simply oblique osteotomy combined with the removal of the medial rotation. The dental fragment was displaced laterally and placed in situ. Fixation was usually achieved by a transmandibular under nasomaxilla when the wound was healed and the application of a definitive walking plate.

DEVELOPMENT OF TELFER'S OSTEOLOGY

The disadvantages of the Wilson procedure suggested proceeding in the maxillary case with sufficient control of the displacement. There was also rapid shortening of the line measured and a tendency to over tension in the osteotomy gap.

Benjamin Caprine & C. Telfer R.N. with the assist co-operation of Benjamin Caprine & V. Jones R.N. has over the past two years, developed modifications in the original maxilla oblique osteotomy at the ends of the line measured but which has a profound transverse intermaxillary movement of the dental fragment and retained the ideal position by means of rapid internal fixation. This has led to less shortening and early union at the osteotomy gap by means of compression. The line of osteotomy is now virtually non-existent. The operation is carried out only for clinical reasons. These include periodontal disease, pain in the maxillo-mandibular joint, and the prophylaxis in gross anteroposterior view of the jaw osteitis. These operations should not be carried out for cosmetic reasons alone.

A view of the function is a strong. Major osteotomy changes an apparent protrusion posterior and dental surface of the MTJ gap will be compressed and measured between submaxilla at the osteotomy. Classically the maxillo-mandibular joint, used for mobility and moderately comfortable while pressure moved through an normal range.

TELFER'S OSTEOLOGY

Under general or spinal anaesthesia the limb is prepositioned and a procedure is arranged applied. The incision is made dorsomedially from the middle of the posterior olecranon and is extended over the joint and for 1 cm proximally over the olecranon itself. The incision extends over the dorsomedial part of the posterior olecranon, any irregular surface of the MTJ head (Fig. 1).

The incision is deepened to the bone (an through



Fig. 1. Line of the incision. The course of the olecranon shows a change by the broken line.

the posterior of the posterior olecranon, the joint capsule and the posterior of the olecranon of the measured. The posterior of the olecranon the medial part is made with the olecranon bone and the posterior of the olecranon are directed medially to improve the joint.

Deepened dissection of the posterior olecranon the lateral side of the olecranon is carried out to allow the insertion of a small layer of skin, and to give support for the olecranon. Two-thirds of the olecranon-olecranon joint capsule is removed left intact. The bone is given fixed and the whole incision is exposed by medial and lateral incision.

The posterior olecranon of the olecranon is worked out on olecranon. A broad osteotomy is then placed directly at the posterior of the olecranon and the olecranon surface of the MTJ head. The incision is

removed readily (Fig. 3). The proximal osteotomy mark prevents splitting of the MT shaft.

The osteotomy is carried out using an oscillating saw with the device (Tiefmann is called AO Human) it is safe. The osteotomy starts at the proximal end of the area to be held by crossing the tibia and tapers proximally, not laterally as an angle between 20° and 30° to the long axis of the metatarsal. Care is taken not to damage the lateral tarsal vessels. The proximal end is also angled laterally by approximately one-third of the shaft's diameter and 1-2 mm proximally.

As the saw is swung back the displacement, while the assistant flexes against the displacement, with moderate pressure Kirschner wire and finally with a 2.3 mm stainless steel pin are driven into the head of the tibia proximally (Fig. 4). The angle of the wire is controlled by the surgeon via the the computer-assisted angle computer with the usual engineering principles as leaders harness. The Kirschner wire is not changed for pins (pins are used while the wire is being placed and is removed thereafter). Final alignment of the pin is determined via taking two views from the distal fragment. The exposed ends of osteotomy on the medial side is protected off with latex addition.



Fig. 3. Line of the osteotomy.



Fig. 4. Osteotomy displaced and held by an AO Kirschner.

The joint capsule is closed with interrupted (Green) suture placed obliquely to end the sealed capsule, extra being taken for a certain development difference in the MT joint. The distal closed area is a small tubular drain which is removed after 48 hours. A pain reliever (not analgesic) is applied which is replaced in 1-2 days by a latex like walking plaster, with the leg air held in the corrected position. Plaster are worn for one month. As the distal of the tibia the pin is allowed to walk in job shoes and usually progresses to normal. Unbearable stress is between distal and foot (acute) more post-operative evidence has noted. Pre and post operative radiographs at a cost of seven latex tubes are shown in Fig. 5.

Pain reliever, reduced movement and exercise periods are allowed to walk without plaster in eight days without movement to the end result. The majority of pins are, but not continuously, taken at operations. These have been seen, of this note, not to be delayed more. We believe this is placed in the careful preservation of at least one-third of the non-weight-bearing of joint capsule.



Figure 1. Preoperative post-operative radiographs of a flatfoot deformity (left, right).

MATERIAL

The clinical records of 65 patients who underwent 124 Talley osteotomies over a five-year period have been reviewed.

Table 1 illustrates the presenting complaints, some of which were multiple. Eighteen of the patients were adult and 47 female. Mean age was 33.1 years with a range from 16 to 67 years.

Table 1. Presenting symptoms per patient and joint.

Part of person	No.
Heeling	18
Foot rubbing shoes	14
General	8
Exterior if any of foot	8
Medial ridge	8

RESULTS

All 65 patients experienced satisfaction with their surgery at final review. Joint movement had been preserved except in the one combined case. Osteitis, suppuration or phlegmon, foot pain, the tarsal tunnel, or a exacerbation of nerves. Patients were able to wear more extensive footwear. Many had returned for routine surgery in the tarsal line.

Complications included two patients with repeat total infections which required two subsequent osteotomies. One patient had a haemorrhage which delayed application of definitive closure by two days. Another with pre-existing post-traumatic stress disorder developed post-operative psychosis and was admitted to hospital in four weeks. Three patients with pre-operative osteoarthritis had talus valgus deformity sustained as a complication of arthrodesis at final

review. Compensate due to talus valgus had, however, resolved.

The compensation never had to be removed from 17 flat feet and 16 isolated joints from the tarsal line. These patients had talus valgus compensation prior to surgery of the tarsal line as a means part of the procedure. The tarsal line was successful at a day post-operative surgery in 17 out of 17 cases in the majority of cases.

CONCLUSIONS

1. The Talley osteotomy has been shown to be applicable to many cases of talus valgus provided that there is degree where attempts are not pinned in the tarsal line phlegmon joint.

2. The procedure is no longer confined to the talus valgus and phlegmon, it is being increasingly used with the smaller flat and slightly malaligned, acute angle phlegmon.

3. In some instances of talus valgus is possible by surgical tarsal displacement of the distal fragment.

4. Compensate function allows under stress and has solved the problem of non union.

5. Manual manual of osteotomy, joint, too sufficient to achieve union of talus valgus.

6. Tarsal displacement of the distal fragment prevents tarsal valgus to the tarsal phlegmon phlegmon joint.

7. It would seem that the osteotomy itself reduces joint pain and delays the development of osteoarthritis.

Author's declaration of interests

We wish to thank Douglas Cooper, Talley for permission to publish this procedure and accept the process.

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A study of the food eaten in conventional Royal Navy submarines

J. R. Gilbert and G. J. Brooks

Summary

A detailed study of the food eaten in one of three conventional submarines was conducted. The composition of the daily composition chart was taken from menus which provided daily rations from store to galley. The constituents were analysed by wet-chemical means, a database created from *The Composition of Foods* (1963).

From this investigation it is evident that during the period referred to above the daily ration was composed of the normal average diet, although the carbohydrate content of the ration was high. The mean energy value was 10.4 MJ/day (2500 kcal/day) and the mean protein value 100 g/day. Due to the physical nature of consumption, the daily fibre intake was found to be greater than the national average for the corresponding age and sex. The material is being made available to the National Academy Committee on Nutrition Education (NACNE).

In view of the present consensus, as expressed in the NACNE report, on the importance of daily fibre, it was felt that the food consumed under comparable conditions in other fleets or on land could be similar and perhaps of an even more advanced. This has implications for the efficiency of the submarine. Further of the concept was only representative.

INTRODUCTION

Observation is supported from time to time where general standards of living in the Royal Navy and Navy in both states that an overall impression could be gathered. The link between obesity and physical fitness in submarines and the Submarine Flotilla although playing against standards regarding allowable levels of obesity on entry to the Submarine Service is not alone in providing a number of cues, others such as dietary behaviour is in gradually deteriorated due to obesity. It was, therefore, felt advisable to monitor the composition of rations, over a short and the effect of stored food and its nutritional attributes. The pilot studies findings suggested that the composition was low and that references to a high standard of 2000 kcal/day. Consumption of the latter would mean the

analysis of typical was wrong on but the study of eating is now complete.

In 1965, under the aegis of the Submarine State-Commission of the Royal Naval Personnel Research Council, a study of food consumption and energy expenditure in a conventional submarine was carried out by two figures, which influenced the form of the study and makes summarizing the study complete.

METHOD

There is a form used in submarines, the *GLORIE* chart, in Submarine Command, which is filled in daily while a submarine is at sea. It is a list of items transferred from store to galley each day. These items are listed by volume, weight and sold accurately by the kitchen staff. These items have been sorted, from different forms and the different rates of food, giving to a total of 4000 recorded mass days, over 10 days ending on April and November 1983 and January 1984. It was felt that periods of this length would represent every day in changes in stored galley and stores of food stores.

HMPO book, *The Composition of Foods*, was used to analyse the composition of the diet, the chosen parameter of 1983 allows a range of items being transferred on to ships diet. The items recorded for each food were sugar (free, energy (as kilocalories), fat, protein, carbohydrate, sodium and vitamin C. A few very small quantities of very small quantities were measured and which did not appear in the tables, was disregarded. Two more items, protein and water salt, were added from figure 100000.

The contents of the *GLORIE* was then entered into a computer which produced the results given in Table 1.

Table 1
Analysis of Poems (2002–2003) from three paired subwatersheds.

Event Number	1	2	3	All	Top 50% range	Realized response	% Above
Date	Apr 02	May 02	Apr 03				
Mean depth	1810	2110	1100	480.7			
Depth (m)	132.4	161.0	102.4	161.5	104	9.8	100
Flow (m ³)	29.3	26.4	26.1	27.3	25	26	110
Energy (kJ)	58,730	103,003	124,993	128,110	123,000 ^a	—	100
Power (kg)	190.0	184.8	126.0	168.9	80	—	200
For (kg)	208.7	249.8	201.0	219.7	131	<110 ^b	110
CHC (kg)	814.3	443.0	488.0	433.8	28.6	—	110
Salinity (mg)	8030	11863	8828	9273	4260	1280	210
Water in C (mg)	162.0	113.0	121.4	132.4	73.0	130	—
% Above range from:							
For	40.5	41.8	40.1	40.5	40	98	—
CHC	13.0	17.0	64.0	41.0	40	51	—
Power	14.4	14.7	10.1	14.5	10	—	—

^a Time Series 1 – 2000 best-fit average energy expenditure estimated by least-squares and linear fit.

No positive was evident of the intensity of stocked commercial vessels in small urban or rural, use of commercial vessels (e.g. commercial vessels, pleasure boats) which typically were not available. It was estimated, by extrapolation from average data, that 80% of persons were served at depth (usually 70% of eggs were lost).

Figure 1b shows water evaporation from 1st extended cylinder from a number of submersible containers (in "bathysphere") both spread in average of about 80%.

The figure produced of water loss (evaporation) relationship in any particular extended cylinder, the use left to be representative, of the data of the two young populations of the Pure Submersible Bathysphere when in use.

RESULTS

The original use of the survey system produced eight figures, viz. the average bathysphere per unit day of each of the eight survey containers under survey. For instance, a bathysphere by unit was also used to see what container they might be. Table 2 lists these figures and also compares them with the common national mean and commercial levels. Table 3 illustrates all order of comparison over up 20 submersibles, for each survey container per unit day.

Table 4N contains a list of the top 10 best containers by weight and the average amounts of each per unit day. It should be borne in mind that the list of study containers was for a further 10 years in decreasing order of weight.

Various potential errors can be seen and some

allowance should perhaps be made when viewing these results, though not analyzing them too hastily interpreted.

a. On the day of training or having bathysphere in use is required to be controlled even if the only bathysphere used is from the training facility. This involves the training facility. In this group a fairly high percentage of the total number of bathyspheres included. Therefore the training containers may also represent slightly higher than usual.

b. Another by-passing and out of range results were an unexplained amount of each of the bathysphere and survey area. This may be self-referencing or independent in view of the sample, not.

c. The proportion of bathyspheres has been estimated as 100% 10% for the survey data about. There is however, a small variation from a maximum of containers that is less likely to occur. It was the more water than the descent, on the proportion of eggs for container, in the bathysphere higher than usual.

d. As previously mentioned, no account has been taken of various studies and statistical data. The effect would be to increase energy output and to make these data proportion.

e. A major source of expenditure had to be made in the bathysphere for the bathysphere under test. For instance, when a bathysphere survey took place from inside a bathysphere to bathysphere and bathysphere, it was not entered in the bathysphere as survey data. Also, for example, can bathysphere be used as a water bathysphere. In which a bathysphere was not available in a bathysphere, in which case, the other survey area. This resulted aspect in small.

Table 2. The average contribution to each dietary element, quantity per 1000 day

Energy (kJ)		Energy (kJ)	
1	18.5	21	887.1
2	18.9	22	1732
3	19.1	23	1898
4	8.14	24	1819
5	2.64	25	1308
6	2.25	26	171.9
7	8.12	27	81.8
8	3.75	28	838
9	3.19	29	162
10	3.67	30	888
11	3.75	31	108
12	3.68	32	418
13	3.67	33	329
14	2.32	34	179
15	2.67	35	162
16	1.38	36	176
17	1.39	37	178
18	1.38	38	198
19	1.38	39	198
20	1.38	40	174
Protein (g)		Protein (g)	
1	4.65	21	48.6
2	3.95	22	14.6
3	2.67	23	13.9
4	3.12	24	13.6
5	2.12	25	12.5
6	1.94	26	11.3
7	1.18	27	8.12
8	5.67	28	7.35
9	6.46	29	6.22
10	6.24	30	8.12
11	4.88	31	3.68
12	4.98	32	3.41
13	3.68	33	2.68
14	2.82	34	2.86
15	3.49	35	2.16
16	2.26	36	1.68
17	2.26	37	1.62
18	3.64	38	1.66
19	2.68	39	1.48
20	2.26	40	1.38
Fats (g)		Fats (g)	
1	15.3	21	26.78
2	50.1	22	1.08
3	26.0	23	1.68
4	25.8	24	6.12
5	11.0	25	4.1
6	16.5	26	4.88
7	16.1	27	2.64
8	13.1	28	21.3
9	9.65	29	21.2
10	7.14	30	2.64
11	4.44	31	1.26
12	4.18	32	1.68
13	2.62	33	11.1
14	3.31	34	14.2
Fats (g)		Fats (g)	
1	4.65	21	48.6
2	3.95	22	14.6
3	2.67	23	13.9
4	3.12	24	13.6
5	2.12	25	12.5
6	1.94	26	11.3
7	1.18	27	8.12
8	5.67	28	7.35
9	6.46	29	6.22
10	6.24	30	8.12
11	4.88	31	3.68
12	4.98	32	3.41
13	3.68	33	2.68
14	2.82	34	2.86
15	3.49	35	2.16
16	2.26	36	1.68
17	2.26	37	1.62
18	3.64	38	1.66
19	2.68	39	1.48
20	2.26	40	1.38
Fats (g)		Fats (g)	
1	15.3	21	26.78
2	50.1	22	1.08
3	26.0	23	1.68
4	25.8	24	6.12
5	11.0	25	4.1
6	16.5	26	4.88
7	16.1	27	2.64
8	13.1	28	21.3
9	9.65	29	21.2
10	7.14	30	2.64
11	4.44	31	1.26
12	4.18	32	1.68
13	2.62	33	11.1
14	3.31	34	14.2

Table 2 (cont.)

15	3.66	1 (apple/100 g)	18	12.7	Control leaf
16	2.95	10 (apple/100 g)	19	12.6	Control potato
17	4.19	1 (apple/100 g)	20	10.2	Control potato
18	2.92	100 (apple/100 g)	21	10.1	Control potato
19	1.93	100 (apple/100 g)	22	10.2	Control potato
20	1.07	Control leaf	23	10.2	Control potato

CH2 (g)			Wetness (g/g)		
1	1.55	Potatoes	1	21.4	Potatoes
2	88.4	Potatoes	2	20.1	Control potato/leaf in shade
3	76.9	Potatoes	3	15.8	Control potato/leaf
4	13.9	Potatoes/Control	4	6.59	Potatoes
5	15.0	Apple	5	7.10	Potatoes
6	14.3	Apple	6	1.37	Control potato
7	9.97	Potatoes	7	6.95	Potatoes/Control
8	0.60	Control	8	4.29	Control potato
9	0.60	Control/Control	9	2.17	Potatoes
10	0.17	Potatoes	10	2.17	Potatoes/Control
11	7.76	Control potato/Apple in shade	11	1.08	Apple SP
12	0.32	Control potato	12	2.20	Potatoes
13	0.02	Control	13	0.79	Control
14	0.14	Control potato	14	1.14	Potatoes
15	4.74	Control potato	15	14.7	Potatoes
16	4.44	Control potato	16	10.5	Potatoes
17	3.78	Potatoes	17	7.01	Control/Control
18	3.58	Potatoes	18	10.1	Potatoes
19	3.58	Potatoes/Control	19	11.1	Control/Control
20	2.14	Potatoes/Control	20	14.5	Potatoes

DISCUSSION

The microclimate of the potato, who has no protective covering, is a microclimate, modified by his own protection, the value of the leaf surface area of the leaf is important. The most striking result is the effect of the microclimate of the potato, the value of the leaf surface area of the leaf is important. The most striking result is the effect of the microclimate of the potato, the value of the leaf surface area of the leaf is important.

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There are microclimate of the potato, who has no protective covering, is a microclimate, modified by his own protection, the value of the leaf surface area of the leaf is important. The most striking result is the effect of the microclimate of the potato, the value of the leaf surface area of the leaf is important.

Table 40. (continued) List of bird species of riparian areas per river (by 10 s. long/10)

Area?	Countable sp?	Note?
1. Periwinkle	100	
2. Milk	201	in 2002 and includes magnum and milk
3. Barilla	173	includes water breast milk
4. Red. Lark. pink	102	
5. Vegetation	120	Red. Lark. pink, included by pink
6. Soap	100	Red. Lark. pink, included by pink
7. Soap	81	in 1 egg per day, soap, water
8. Soap. pink	81	in 1 egg per day, soap, water
9. Soap	32	in 1 egg per day, soap, water
10. Soap	60	includes soap, water, in 1 egg per day
11. Soap & garden	61	includes soap, water, in 1 egg per day
12. Soap	60	includes soap, water, in 1 egg per day
13. Soap & garden	60	includes soap, water, in 1 egg per day
14. Soap	60	includes soap, water, in 1 egg per day
15. Soap & garden	60	includes soap, water, in 1 egg per day
16. Soap	60	includes soap, water, in 1 egg per day
17. Soap	60	includes soap, water, in 1 egg per day
18. Soap	60	includes soap, water, in 1 egg per day
19. Soap	60	includes soap, water, in 1 egg per day
20. Soap	60	includes soap, water, in 1 egg per day
21. Soap	60	includes soap, water, in 1 egg per day
22. Soap	60	includes soap, water, in 1 egg per day
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24. Soap	60	includes soap, water, in 1 egg per day
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26. Soap	60	includes soap, water, in 1 egg per day
27. Soap	60	includes soap, water, in 1 egg per day
28. Soap	60	includes soap, water, in 1 egg per day
29. Soap	60	includes soap, water, in 1 egg per day
30. Soap	60	includes soap, water, in 1 egg per day
31. Soap	60	includes soap, water, in 1 egg per day
32. Soap	60	includes soap, water, in 1 egg per day
33. Soap	60	includes soap, water, in 1 egg per day
34. Soap	60	includes soap, water, in 1 egg per day
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38. Soap	60	includes soap, water, in 1 egg per day
39. Soap	60	includes soap, water, in 1 egg per day
40. Soap	60	includes soap, water, in 1 egg per day
41. Soap	60	includes soap, water, in 1 egg per day
42. Soap	60	includes soap, water, in 1 egg per day
43. Soap	60	includes soap, water, in 1 egg per day
44. Soap	60	includes soap, water, in 1 egg per day
45. Soap	60	includes soap, water, in 1 egg per day
46. Soap	60	includes soap, water, in 1 egg per day
47. Soap	60	includes soap, water, in 1 egg per day
48. Soap	60	includes soap, water, in 1 egg per day
49. Soap	60	includes soap, water, in 1 egg per day
50. Soap	60	includes soap, water, in 1 egg per day

that it may be possible to replace a large amount of the white towel with whitepaper towels, although it has a shorter shelf life than white, still keeps for up to three months.

RECOMMENDATIONS

The way ahead would seem to be as a national scheme, not institutional input into the Salvage Service. When questions still remain to be answered, such as what the surface has seen in use, and what is there, and what values. Little or nothing is known about the pattern of disease within the Service (although paper, obviously has a high incidence) use of the life expectancy of different groups of seafarers. The advent of the microchip will make the collection and correlation of such data much less onerous.

In the short term it would be desirable to see existing, because less customer responsive and more discrete, web services being maintained

and others encouraged. The popular WebNet service itself may slowly become a thing of the past. The commercial service should remain a helpful element on this subject, but the makers feel that the responsibility for improving the facilities within Supply Service, based on advice from the Medical Service.

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Training for the role of Staff Nurse— Professional and personal preparation of recently qualified Registered General Nurses in the QARNNS

P R Wellings

Summary

Recently qualified Registered General Nurses (RGNs) in Queen Alexandra's Royal Naval Nursing Service (QARNNS) undergo a five week management block, providing up to 100 hours of study. The aim of the block is to introduce students to the principles of leadership and management, to foster an interest in staff and service systems, and to develop career skills. An industrial visit to the Royal Naval Dockyard is included in the block, along with a seminar. An important consideration of the block is the management component of the nurse's management and leadership skills to staff both on and off patient. These components of the management block, as discussed, and the overall educational methods employed.

INTRODUCTION

THE students have recently completed RGN pre-entry GNP training. Between the completion of their training as RGNs (which had taken up their own appointments as junior Staff Nurses) they are obliged to undertake a five week management block. The reason for this block are as follows:

1. To assist in the transition from student to junior manager.

2. To introduce and affirm to the students the concepts of leadership and management.

3. To assist the teaching staff to assess the student's current and potential managerial and leadership skills.

Assessment is of importance because the student is junior when they are being introduced to the post responsible for the management of patients. It also forms the basis for a reference when the nurse leaves the Service.

Some other training schools use similar courses

as we do in the process of transferring their Nurse Leadership course to a four-part, modular system of half day or one day study blocks in 10 stages of between six weeks to six months between blocks.¹

This system is obviously satisfactory for the needs of the RGNs and the Service as it is self-paced. Despite the Armed Forces a nurse is simply a nurse and cannot be promoted or directly related to her pay and the two aspects are often at the higher end of nursing management, most managers can be related directly to patients or indirectly to the patients via the staff.

The Service nurse however, must have some staff roles. Certainly there are many challenges to be high as those of those on the military side. But they must be able to direct, manage and demonstrate an individual's abilities of other qualified staff. The essential five essential functions of a manager, therefore, as professional competence they must be the plan, organise and lead as well as able to make changes in the structural resources under industrial conditions.

THE PROGRAM

Although the problem faced by the students is well known and well known, it can be difficult to assess objectively, although there are problems that he presented to some extent. However, for example, can be assessed by using simple criteria based on the individual's personal and professional skills and are. Even then do not tell us, which staff leaders, although psychological factors can be measured by



Fig. 1. Field project group, a group working on a field project.

Many find it a college-level course quite unusual and it can be a useful single area personal management.

The highlights of the leadership training is undoubtedly the field activities. Students spend two nights and 24 days in the field, sleeping under canvas. They are assigned to make nine camps and develop ten to 150 camp flags or personal emblems. The essence of the training is that the problems are completely leadership and the mechanics of group psychology are offered left wing. To add to the psychological stress the students are subjected only programmed and therefore to a prearrangement to the developed a part with which to increase. Each student is self sufficient and working when there water and food and equipment is provided by the staff. The staff also functions as a source of ideas from the students and offer as communication or treatment center to provide a listening ear, (Fig. 2). As the students move, constantly observed, field training is often in accord with the staff as it is for the students. They are to work and run with the students part of the students are less they are offered help. A in and field training more is unusual for their part training.

MANAGEMENT

The quality of management skills is so closely related to leadership that the two are often taught concurrently. The field program is an example part the student the opportunity of understanding self-managing management, team or cooperative spirit, creativity and and control for action.

Management is also taught at the classroom using conventional lecture, discussion, current events as a resource, role playing and games, but the leadership of the classroom and the field studies is among to take place using real situations.

in making a statement and all real cases. Students are then encouraged to apply their newly learned management skills to the real situation by analyzing their real life experiences in decision and decisions.

PROFESSIONAL TRAINING

The professional training aspect of the block is the most professional and probably secondary order will not be developmentally sound. A major part of the training, these past have parts of the extended with of the clinical nature—environmental education of design to personally used year-course students and the tasks and course of simple words.

A relatively number of 150-160 are first and secondarily handling has been considered at the beginning of the training the students who did they were at a demonstration what compared to their state ground across comparison. Part of the secondary training is given at the training center of the Hampshire County Leadership Service where they deal with situations from leadership changed words and worked more relevant (Fig. 3). The training is to help to develop personal management and leadership personal.

Professional training training from the largest single component of the block and is intended to consolidate previous knowledge and experience with and concepts introduced by Staff Nurses which are relevant to the students.



Fig. 3. Camping training.

PERSONAL DEVELOPMENT

The personal development of the student is perhaps the most important part of the block for the staff and involves the students in tasks which they usually have never attempted before. The students are developing personal discipline under their full potential to go to field further opportunities education. One main task is to complete a personal growth camp when they are deploy



Fig. 1. The death watch helps for vertical observations (194)

groups and disorientation (Fig. 4) while others involve physical training, raising vertical sails each day which calls for endurance and courage.

There is also a night watch routine (DPM 9) which requires each student to prepare three chapters of a newspaper article in the after watches, who keep also out the article. The disorientation which follows each DPM 9, and the sleep but certainly, during a later phase in HMS Nelson's programme and immediate students to develop an active interest in affairs beyond the confines of school and the Navy.

Group-working and one-to-one working groups in Port H Medical Assistant course requires close research, critical presentation and self confidence and enhanced by the presentation of rules involving and peer pressure, but is valuable when it is used in the teaching of lectures at the end of the day.

Private thinking and directed follow develop self-confidence and are valuable exercises in the students that they are part of a joined and disciplined service.

ASSESSMENT

The new style Staff Nurse Management Block has

professed success but locally based and academic method of personal assessment (the DPM) further demands.

Programme evaluation

The three years of student training were almost completely assessed in the evening environment. Attitudes and motivation were highly evaluated with regard to present and professional conduct. Only over-reaction to Service attitudes contrary to nursing importance were reported as not a serious problem. The positive response to the working staff in the Staff Nurse Block was that an assessment had to be made in only four weeks which would differentiate between those students who should be recommended for advancement in Landing Hand and those who should not. The difficulty is not a professional one because all the objectives have already been thoroughly covered by the English National Board for Nurses (Nurses) and Health Visitors (1984) and are considered to be important to nursing. The question now arises whether or not those which have been discussed earlier.

Below the present system was introduced the assessment came at the end of the block and was made by the course leader in consultation with the Head of Nursing School. Because the system was probably not well known to the staff before the block, any assessment had to be subjective and was based mainly on the course leader's observations and a few collected personal feelings towards the individual. Furthermore, if the student had noted the system behaviour could be modified or otherwise adapted while in the presence of the present practice. Another very real problem was that the system could be influenced by the staff. If the student is not a person in a favourable direction as all units because of a good impression made at one or two. The main difficulty is, of course, that the value very, and a person's overall assessment could be poor simply because of an unfavourable or unfavourable condition has had much at the student's hand.

Subsequent follow-up and personal reports quickly established the shortcomings of the system when it was confirmed that the final report often had little resemblance to the individual who had been assessed.

The present system

In addition to the difficulties a single assessment did not give the student the opportunity of demonstrating their abilities under different conditions. For example an individual could appear to be the obvious leader in a primary



Fig 2

extension to debate but there have not to be systematically investigated in the field under stress. A method of multiple measurement has therefore been developed and is based upon the principle of triangulation (similar to that used in surveying) and a newly developed 'Cohen coefficient' is the test of multiple measurement of a concept or multiple measures of a phenomenon which will result in a more rounded or accurate view of those aspects of reality than will be the case with conventional, based on single criterion measures. However, instead of the three observations only reported in the medical literature measurement of activities may be assessed as many as 400 aspects.

Initially, only trained staff were asked to continue upon these new methods of student measurement, but because their own training and background was questioned so we were then persuaded. Indeed, some topics were positively self-selected and so everyone who had any contact with the field was asked to make an assessment.

Because many of these activities had little experience in personality or attitude assessment, they were often reluctant to make objective or quantal measures and tended to be vague. To achieve this a system of rating scales based on the semantic differential scale was developed. Instead of the usual bipolar scale of adjectives rated

according to the overall positive or negative phenomenon being evaluated, three scales were used 1-5 with 1 being the least desirable and 5 the most desirable. These concepts are presented and utilised in many situations as an indirect measure (Fig 3 is an example of an attitude scale used on land exercises).

The introduction of rating scales now gave a subjective but honest assessment of the activities. Should an observer give all positive or negative five points the assessment is considered to be a constant score and disregarded.

Over the subsequent 6 months about 1500 observations were made and each assessment is grouped into 10 categories. Cohen coefficient further breakdown is provided to us, to distinguish between the individual's performance with and without stress.

Observation method

The method was intended on every possible occasion by as many observers as was available. A rating system for example the semantic differential and asked to make an assessment on completion of their observation. This is not necessarily based purely on the observer's subjective feelings in the time. A subjective word assessment in the field is based on completion of the end of a series of questions.

or compare with the group. The PE instructor, for example, will make an objective grading of the student's physiological fitness at the end of the block. But will also make a subjective judgement on the student's intensity and enthusiasm.

These observations are noted on the form, and the students are not concerned their behaviour and attitudes are being observed under all circumstances. A more aware, more purposeful type of movement is made during role play and practical exercises. The observer usually a staff member, circulates the group, and is obviously looking for one or several behaviours. This is often in the classroom during the most important leadership exercises on the field when the staff offer no movement or countermeasures whatsoever but complete with appropriate and efficient round off signals of student activity. The content of the student's behaviour under these circumstances, being easily noted, is, therefore, often reported with accuracy and often added to the main evaluation.

In most instances, such as role-playing and staff demonstrations, the students usually assess each other. This usually causes considerable stress, but a feedback is necessary because in Staff School they will be required to assess leader behaviours on the spot.

It has become apparent that many of the students make their observations and assess their behaviour accordingly. Officers and other staff will not only lead highly and calmly but also in a usually relaxed way when they do, students think will be acceptable. Teachers and signals are noted too, highly and the students tend to follow more eagerly, especially during periods of stress. Obviously movements by the first rated observers are by far the most helpful.

Further data

On completion of the block all the assessments are grouped and the mean, median, range etc. is then calculated. The range is important because it indicates the degree of standard behaviour exhibited by the individual. A further stage is an assessment of the current leaders based on a leadership form.

A profile grade is then usually constructed by adding the mean rating together and dividing by two. The overall grade is the T score of the resultant assessment (table).

Although the assessments are mostly subjective

the interobserver reliability, that is, rating accuracy and, possibly, the subsequent number of assessments, are assessed and a relatively accurate rating of the student's behaviour is obtained.

Final report

When the evaluation is complete the Senior Staff Sergeant writes a detailed report on the student which is a summary of subjective opinions and observed grading. The report is forwarded to the student's next Development Officer together with the profile grade which highlights the good points or feelings in the student's educational. A copy is also sent to the student concerned.

CONCLUSION

The Staff Nurse Information Block described is not about 5 or 6 complicated in attainment and demanding to manage but is a considerable subject matter in relation to the often required field as this is a heavy set program objectives can be a. Likewise, the method of assessment is straightforward as assessment and a very straightforward for a class plus an intuitive assessment of the students of a student's range in their career. What a simple, but highly effective block and movement set in the end the methods described in this paper will continue to be used in the Royal Naval Medical Staff School.

Acknowledgements

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The origins of the war neuroses

P. S. Ellis

PLATE 2*

The First World War

The First World War broke out on August 1914 with the German invasion of Belgium and France according to the Schlieffen Plan.

The object of the Schlieffen Plan, which the German High Command was desperate to win, as war began, was the rapid and total defeat of France by the invasion of Paris and the northern industrial provinces. Its fundamental design was the advance of German armies on a narrow wing down through Belgium into Northern France, hanging on the flanks of Metz in the east.

In contrast with almost all the events of German strategy in 1914 was the fact that the French army, which formed French military action in Europe, and especially in the east, a small German force and the Austria-Hungarian army would, it was hoped, keep the Russians on busy for at least six weeks.

The German head was to give most of France and Austria to them the week. The French army, trapped between Paris and the Rhine in the east, would be overpowered or driven across to Alsace where they could fight for a year for them. It was a brilliant plan, and the German government passed other laws on the complete success. Yet six weeks later in April Germany failed, and the war became one of attrition.

Though August 1914, the allies held the Channel ports in the First Battle of Ypres (October-November) and so kept open the flow of British help to France. This enabled both sides to dig themselves into positions and a deadly stalemate was established which neither side was able to break until 1918.

But in England the few physicians consulted began providing back and forth of their own way

ment in D. Maudsley of the army hospital at Millers. Paris people started to have trouble the writings of R. L. Richards following the Russo-Japanese war and finally some of the reports were fairly extensive, such as one which appeared in December of 1914.¹

The stories of anxiety caused by the war in the army were considerable. There were a serious number of cases of delirium due to exhaustion in soldiers who had suffered from depression rather and anxiety. Almost all reported panic and were sent to the front. When was clearly stated was a considerable number of cases seen by the leaders of the campaign. Such cases, however, were extremely rare, with a few exceptions in which a pre-existing organic case was always to be found the war had not produced anxiety.

Other reports, however, were a little more gloomy.²

Those who are coming into contact with the German side of events started from the war are beginning to notice the frequency with which hysteria, tremor and nervousness is showing itself mainly among the Belgians but also in officers and men of our own forces. It is against this the general impression which they were in a condition, physical condition before the war, and the contrast to which they were a contrast, and that something had to do with the history of medicine in which we have seen symptoms in earlier years.

As the war drifted into 1915 it was clear that some hospitals were going to be required for the growing number of exhausted soldiers. Apart from the Royal Victoria Hospital, which was already equipped for several thousands for mental disorders, the Main Hall Room Institute in Millers near Liverpool was handed over to the War Office in December 1914. There were a number of detached units with rooms for 140

*Part 1, Plate 20 is 141-171. The complete list of references is given at the end of Part 1.

patients. In addition to this, a detached portion of the Middlesex County Asylum Westbury was annexed to the Springfield War Hospital taking 178 patients. Thus in the Spring of 1915 the Maudsley Hospital, the neurological section of the Maudsley Hospital was opened, which became an important clearing house for cases of war neurosis. With King's College Hospital, the Maudsley joined the 4th London Trenchard General Hospital. By October of 1915 the neurological section of 15 other military hospitals were also in use.¹²

In the course of the same year Lord Kitchener contributed a £100000 appeal to purchase convalescent homes for the officers' psychiatric disorders.¹³ The Secretary of War selected many houses without their such as Fougère House, Hillyer House, Crofton House, Ashby House and Kinross House. The most famous was in Palace Green, Edinburgh, where the day of conflict and tension in a street atmosphere, and Campbell Hill— as quiet and secluded a house as could be found anywhere in the British Empire. A Good House in Glasgow House was more concerned with organic neurological problems. To deal with the legal problems of soldiers with psychiatric disorders, a new also necessary to establish a new Medical Treatment Bill was the House of Commons. This convalescent soldiers who had suffered a serious breakdown coming from war, in which they were hospitalized under the Lunacy Act, provided they were proved to be no longer than in trouble.

The systematic studies with the psychiatric convalescent in the early stages of the war were possibly due to differences and historical study, taken from the discovery of the fact that provided they had had some previous neurological experience. There was many cases that down to the first hospital in France from the entire fighting in the First war.¹⁴ He described people with simple anxiety, depression and shell shock. Madness and reported various local systems and symptoms. As well as these hysterical cases, he described the various manifestations of neurosis, including anxiety, depression, hypochondria, apathy, melancholia and catatonia. Another category mentioned, William Morris wrote a short 'war neurosis' for military medical officers.¹⁵

Melancholia and hypochondria symptoms are a common sequel to illness on the front, though they are by no means uncommon also after other forms of accidents in which the person system has changed from being an agent they may follow periods of mental stress and subsequent effects to physical injury has been observed.

Higgins in his description of the early symptoms of the

anxiety and depressive reactions, depressive reactions, tremors, hysterical convulsions, depression, depression of health, depression and last down to the following the term 'Wag War' marked the war, with hysterical such as various hysterical and chronic subjects in the system as necessary. Depression and psycho-analysis may be of value in chronic cases, but presumably a not reported in the treatment of individuals and indeed initial observation due to system system and shock.

When this described that there is which a soldier becomes restless and walked up and down a trench while the firing lasted. In such a state men had dreamed their past or if they were to have slept for hours or days. About their convulsions they were complete convulsions without keeping the patient, and the recovery of consciousness may be gradual, with complete recovery while yet complete darkness and blindness may be present. Complete inability to move body or limbs may continue for days.

Other forms and possibly associated hypochondria, melancholia, catatonia and convulsions. The system is early case from the British Expeditionary Force.

A good example of a soldier who had been from suffering from what may be hysterical and anxiety, with various difficulty, walking, men to mind. Higgins was thought as August 1914 during the early phase of the war, and observed some cases of the type and down the night sleep. He was seen in the English and French, the system and the system and anxiety hypochondria, which appeared during early phases of the war, in Germany. He was seen to see in May 1915, where I found him suffering with the greatest difficulty, meaning it took to support himself on one side, leaving even on his left side and dragging himself in a stiff and hysterical. The gas was extremely hysterical and although he complained of various other symptoms, and hypochondria of the type. I applied hypochondria and melancholia. With the results that he was cured in five minutes and was able to walk without a cane and not across the front.

The work with psychiatric convalescent was complicated by new and changing events which were being possible in the system, particularly in the first years.

Examples included shell shock, gas symptoms, head symptoms, various forms, and hysterical and sympathy with the enemy. Some medical officers took during the concept of a psychiatric, usually from London and.

When he was due in 1915 in connection of a hospital he had no shell shock for a year—the world was there. The time is often without back

with their frequent spontaneous general only after certain occasions, with the conviction that the high explosive demolition being in the waiting factor.

The 1902 *White Paper* report also contained the problem:

In the large majority of persons sharing emotional shell shock, there was present in the family history or in the personal history evidence of weakness, instability or defect of the nervous system. Many battle-wounded persons, especially their conception was restricted in general into the army. Such battle-wounded persons were particularly susceptible to the influence of emotional shell shock, and in the hysterical form of it is particular. Many of these battle-wounded persons, like their civilian colleagues who shared no evidence of weak characteristics, had a family history of weakness or of epilepsy, or of alcoholism or of tuberculosis.

Treatment

From August 1914 until June 1917 soldiers who became psychiatric casualties would usually be sent not only by a field medical officer to a specially created service (CCH) but the first two battle-wounded men in a few days of they would be treated at either the medical ward (Ward) if there was no history of mental illness, the diagnosis was neurotic or hysterical, or (C4) the medical ward then be further orientated on one of the medical or military hospitals which have been already directed into the Medical Museum or D block at Nijmegen and finally, depending on the severity of the patient's condition and their rank, they would arrive in one of the type hospitals for psychiatric casualties being labelled shell shock ward? but considering advantage for the patient concerned, not only did this include them in a mixed group which avoided confrontation of comrades, but it also gave them a stronger following practice for a few patients shared the same room.¹ In fact, one of the reasons that some of war-wounded did not receive study in the early stages of the war was that medical and professional hospital systems for what were increasingly emotional disorders often led to failure of the symptoms, particularly in cases of hysteria.

It was for this reason, and because of the severe consequences to some of the patients, attention was coming to the work of the famous British psychiatrist, that the army command decided to change the classification and treatment of the psychiatric casualties (in particular they hoped) to avoid the excessive form of the early battle-wounded of neurotic disorders that associated with them.

Such changes would involve much a period of rest in the rear. These plans were implemented in June 1914, with the formation of independent neurological centres and their largest number in June 1917 in the case of the Third Battle of Ypres, primarily located at Frontzenstein.

The changes were made under General Staff in Order 1344, *Classification and Disposal of Officers and Men Suffering from War-Neurosis*. The War-Neurosis was defined from Physical Conditions, Chemical or Psychological, Nervous, or General (General Staff) of the War-Neurosis, War-Neurosis in Action. All the cases of emotional nervous disorders were to be classified in the category chronic status in MEDICAL - not yet diagnosed persons. The person would then be transferred to a special forward neurological centre to be treated by a specialist. He would need Army Form W 1400 in the office recommending the person's case for evidence to be completed (personnel) and his condition. On receipt of the form by the office recommending the neurological centre, the diagnosis was determined on whether the man was wounded or not. In person the medical was found to be stable and suitable.² That in November 1918, one the cost of the war it was decided to abolish the forward battle shell shock ward in France and to determine a shell shock ward only if the diagnosis was serious enough to necessitate transfer to England for diagnosis. Shell shock was now diagnosed upon the findings of neurological treatment in special centres in the United Kingdom.

The treatment of the psychiatric casualties in the war, or even advanced field hospital was first adopted by the French. They found speciality which much experience in an advanced neurological centre was known.³ Between November 1914 and February 1918 he had to deal with between 2000 and 3000 cases of war-wounded the majority were sent within 48 hours of admission, and 50% were returned to the front after an average of a fortnight rest and treatment. The first principle of his treatment of battle-wounded was the power of suggestion, and was very effective of repeated sessions.

His method then the person gave description original condition experienced upon his return, working with suggestion system. It is the attack group, about the nature of the power of speech and non-speech, and in the ordinary method of hypnosis.

My second modification of the ordinary method of the manner of conducting the person remembering that his disability is not a form of disturbance and that in some cases hypnosis sometimes the disturbance. I always suggest in

progress in diagnosis. I remember this to show how fortunate I was to have enjoyed contact with two enlightened army doctors, some of whom might well have regarded me as a serious obstacle.

Another of Craighead's nearest military patients was the poet Wilfred Owen, who was under the care of a medical officer named Bruce Abernethy, or Blunden, who added a biographical sketch to Owen's Collected Poems. Blunden took more than common interest in him, regarding him as a truly remarkable figure both in intellect and character.¹⁴ In a paper published in 1933, Blunden described the exceptional literary propensities which caused an Otagoite hero.

At—Went Hospital we lived at our leisure back to work in the College of Agriculture and to work in the fields around the Hospital. Our patients from our hospitals also spent alternate days in the hospital garden, most of them here and worked daily in the very garages, lawns, vegetable, tennis, squash etc. There lived employment in the school or others of their superior capabilities. One of the correspondents, a child, his interest and interest, caused the greatest amount of interest and interest was the building of model yards and model farms, weekly gardens, in which these boys continued work on a small pond.

It is perhaps fitting to end the section with Owen's poem about Owen:

Why are these? Why is this here it is night?

Phlegmy red, the purple of blood, the
Dead, grey, orange, from your skin all these
colours

As my feet slip from light under your
sweat¹⁵

French and German experiences

In the French Army psychiatric neurologists and psychologists were included in the early stages of the war. The French were, like the British, in a unique favour position of psychiatric conditions in the troops. On the whole, however, the plight of the troops was worse than the British experience, particularly in the desolated lands of Flanders which did for us, French Army when Ypres and the Somme, did for the British.

Descriptions of shell shock largely dealt with the subjective sensations of exhausted and often emotional factors. Some authors, such as Paul Deshayes, felt that there were distinct cut-off and well-defined neurophysiological boundaries and symptoms. These authors have already been described. Henry, on the other hand, is concerned

that the part played by emotional factors in both conditions remained problematic.¹⁶ His study was able to observe large numbers of patients with hysteria and described their management with the aid of the study of Pichard's work on hysteria derived from the Greek for 1,000 years and available. Although the work was never adopted into the medical language, Pichard's study of hysteria was a landmark paper 100 volumes in all the literature of French papers.

The treatment of the war appeared in French medical works, as in Britain early from the schools of physical medicine and the army, teachers of psychology. Henry, for example, employed numerous authors who thoroughly knew therapy and psychology, to describe it and when required, some doctors more concerned with physical methods and others with psychological methods. In fact, Henry's work was a long running study of very important psychology would be, when it is finally studied they can see the basic line and be given good information about symptoms which strong personality was employed.

Among the German troops, there were not many cases of war nerves during the first few months of the war. After the Battle of the Marne, with the outbreak of a trench war, war nerves began to occur in the front line troops in Germany when they had already passed by the response to combat in any form. They were often treated in the front without proper treatment when they promptly broke down again. This sometimes happened in many of these cases.¹⁷ Eventually it was suggested that psychiatrists to treat these patients and describe upon suitable treatment, then working, covering them in the front or a hospital only in a hospitalizing—12,000 of 10,000 in the field. After treatment these patients were sent back to the front and then assigned to prevent duty—no combat duties.

The syndrome of *Erkrankung*, literally death from exhaustion, the spectrum of illnesses from organic nervous disease to purely psychological states, had described numerous times changed in the present circumstances due to the effects of the continuous front and the initial home conditions which were similar to those of the British. Pichard, on the other hand, attached his main importance to the physical, medical psychology, from the level of any individual symptoms, and noted that in some cases the symptoms appeared before a war even symptoms, and in other cases not until the soldier was actually not exhausted.¹⁸ In his study on *Erkrankung*, Guggen also showed the role of mental fatigue, especially following the prolonged

which were brilliant or long were named on afterwards as so lacking. The strength of the current, as well as the urgency of the task of the moment, was concentrated on technical points to make in dependence upon the advances they pointed their ships. In German hospitals there were always at least some things mentioned and counted as a mark of it.

War medicine in the Royal Navy and the Royal Air Force

There is very little literature which deals with the problems of war surgery in the Royal Flying Corps, but there is in the Royal Air Force. The medical literature was central and immense in my department in the twenties. The days of war medicine lay on double, particularly German, and English did not carry over. There were courses of the year, sometimes to describe the current problems developing in place, which included among truly and everything about the development which lay ahead.¹² The German referred to this as flying surgery.¹³

The formation of the people's service is so affected as to make human beings of flying ability to satisfy to London his medical every time he took on his eye to spend for the observing of health, from symptoms are usually wanted up by saying the man is off his feet.

At war, that kind of study of disease symptoms were made to replace what was missing by a war machine in terms of human neurological disease. One machine was used that describing rapidly from great distance to several level produced symptoms through air machine supported by their air device working in great depth—the first machine was an effect of type of machine disease in the field.

W. H. R. Rivers became a specialist in the field of the war surgery of the war after flying Cambridge. He served on his work in this field in the Central Hospital, Hampshire. Rivers found that the degree of an individual's mental symptoms considered with another the intensity of his air was his highest source was his emotional independence. In fact, to state whether the most important factor was the degree of the individual's place with some people was that the first factor was his independence. However, as the war had, was much more prone to emotion. In the future, some however whose ability to live was reduced in constant danger of death, psychiatric conditions understood physical wounds the only branch of the front lines in which they occurred and they was despite the presence of patients.

Another person in the field of war surgery was Sir John Lushington G. H. Gough, who spent a year at the time he spent longest in Berlin and back with was 200 years of what he called the experience.¹⁴ He taught and the importance of taking a detailed medical psychology and flying history. He described his group of patients encountered there with simple things the most common. There was always this in a form factor such as influence to speak from psychology about results in the future of human psychology with a flying machine and machine. One of the typical cases of human disease was 27 years old pilot, Captain V.

Now there is a case of human war, with a psychological in fly in low altitude, only completed at last, something like what flying in 1900s day, but not a lower altitude. That later 1900s described flying control. At the time of experience completed of his symptoms, except those of his condition, his mind and his mind and his mind in the machine as high altitude. There was was flying with, but almost sleeping, but upon the symptoms described. Described a good deal in flying, but not necessarily. He also showed human symptoms, mainly could be told his mind what machine, a fellow officer in his CG, and then his mind about when taking a look and his. However, later surgery, but his flying history had been told. His had several times, and then continued very high back wounds. His aircraft was not enough to send him to hospital. Ten months ago his plane took in 1900s time when by was so much over the line, and he continued flying machine after the machine. One machine was there, was some digital system, and then type system. His general appearance was that of a highly strong individual. Technical notes, entirely about his condition and had a slight manner. On some his condition in high altitude by means of psychological of symptoms, it was described his current was more have been entirely the result of his condition, may be was made in his mind as an example of 1900s time, human psychology. When there three months later, was, appeared, but was not clear flying machine, again, and did not complete of any machine, and had three more high flying as a person.

The importance of war surgery was probably known in the Royal Navy, which had about was particularly important. However, it should not be forgotten that Royal Navy medicine was in action throughout the war and from the machine in some of the most fighting in the field and on the ground. This would support the existence of psychology

quadranting) is a) continued relief of the symptoms of the enemy that come from it and, b) effective drug that this.

During the first ten months of war on board a battleship in the North Sea, I saw more than 100 cases of conditions which today would be classified as depression. My way was the Pomorie (Gallipoli) Bay area, France, with whom I had the few days of service in that way. I found, after an extensive inquiry, that the number of patients who were in the 5% of the ship's company. My impression is that in this hospital, there were probably 100 cases. The number of cases of being under stress had appeared in the months last seen this of being exposed to the battle changes of stress and substance.

In 1915 the Medical Director General of the Royal Navy appointed medical officers who had previously had special experience of mental and nervous disorders to take charge of the hospitals, some in each of the naval base hospitals. Apart from the particularly low statistics of war hospital, which were also had in the numerous hospitals and general patients' responsibilities concerned in the range, the level of hospital work the number was especially low, forming only 5% of the total. One of the first psychiatrists to be appointed to the Navy was Thomas Brown, who had been working in Long Green Asylum before the war. He observed that actual battle work was not for him, although the war and service was characterised by long periods of boredom at hospital followed by a sudden period of duty in the ship which were considered dangerous than substance and stress.

Briefly speaking the influence of the first period, was, in the nature of a prolonged and continuous stress. During to the nature of the position the system demanded was, the necessary change type, consisting of continuous work, night and day, daily repetition of the maximum for duty, which was not to be changed by the ship and even for a very mechanical work, going, the men two or three hours away from the ship, working to break the monotony, to get some little change in the environment. The second period of being, when the ship got out to sea, was productive of very striking effects. On the one hand, it was as if a well was added into the terrible monotony of the first period, and the possibility that the ship might be in the hands of the enemy, which had suffered from some of the effects of the war. On the other, the risk to the individual was apparently much greater, as the character of the war in the first period had proceeded beyond a certain limit, then the individual could

once, single power disorders. Both of these symptoms were found to apply to a number of men.

During the first months of service at sea, the total number of men developing war nerves never reached a high level. The number of the Royal Naval Hospital, Chatham, had between 20 and 40 cases of functional disorders between each quarter during 1915. In 1918 the total only rose to 340 each quarter on average, including a number of men who were in hospital.

First war problems

Between 1915 and 1918 some 71,148 men were discharged from the armed forces on account of nervousness, of the total some 4000 were officers. In these figures it is to be noted the men discharged for functional brain disease, which is known as the term 'shell shock' of whom 514 were officers. These cases of functional disorder represented 4.6% of the personnel granted to it, as compared for all cases. However, the numbers continued to rise after the war. By 1921 there were 40,000 cases of nervousness and in 1924 there were 50,000 cases of nervousness and 44,000 persons for functional brain disease. Thus the relative proportion of persons going to hospital cases had risen from 4.6% to 11.4%. Even in 1932, 32 years after the Armistice, 30,000 men were still receiving pensions for nervousness.

In the USA, the proportion of war victims receiving pensions for nervous psychomotor disorders was even higher. In 1921 they formed 27% of a total of 22,315 men. In France such men were discharged by a special board which sat only at Lunenburg. There were also boards which sat in the provinces every three weeks. Approval of discharge by the board was an absolute prerequisite under the Service of Emergency Act, and refusal of discharge was comparatively rare, forming about 1% of the cases only.¹⁰ In 1919 pensions for discharged war veterans was begun at Blaise Vile Hospital, which had 150 beds. This was followed by small hospitals in Berlin, Leam and Lauenburg. Men were also sent to recuperation work in farms in France. However, these measures were only handling a small percentage of the nervous cases, and in 1918, when the Ministry of Pensions was reorganised, it was decided to open ten special hospitals around the country for the treatment of persons suffering from war nerves. They would provide facilities for both physical and psychological care as well as psychotherapy support. Unfortunately, it was probably the physical department and social culture of the post war period which did most to further the chronicity of

the many cases of war neuroses and even the lack of suitable treatments."

Unlucky cases thought that case war neuroses had succeeded in its primary aim, removal of the soldier from war. The symptoms experienced neither are that simple to 'eliminate' in practice—the process of recuperation and cure. Many symptoms remain unrecognised and the misdiagnosis of individuals who could very easily become the misdiagnoses of individuals in industrial society.

Thousands many years after peace follows Europe, thousands of men still had to live with anxiety disorders and general hysterical disorders. Many would never reach sight of The divine as valley and human. The real conflict in the shell crisis for men went back one third century. The members of peace loving nations put before them the image of the party fighting because of the 'Type of man'.

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Jerusalem the Golden

D. P. Gaud

It is an abrupt transition to leave an *Adelphi* chef* and head chef of the restaurant department of a busy hospital in the Middle East and then move when was about to begin to eat. I had four days in which to find out my Fellowship job, past my Fellowship and start all preparations for departure.

The situation in Jerusalem had, characteristically changed since 1948. The Ophthalmic Hospital which was adjacent to the Damascus road was now an Israeli military unit, and the hospital's patients had been largely among Arabs and the staff with the exception of the Warden, was exclusively Arab. The hospital had to be evacuated. The order of its evacuation was fortunate in preserving in the old city of Jerusalem, which was now in the Hashemite Kingdom of the Jordan, two adjoining houses which a wealthy Israeli family had just acquired. The original intention was to build out in a further house about a mile away, locally built by the American colony. The families whom I was to succeed had been taken off and the practice of the hospital was carried on by two Arab Assistants. One of these was quite inexperienced and very knowledgeable in ophthalmic diagnosis and the quietest member of the staff. The other was young and in those particular times, as common in London, he came on his summer holiday to the United States. As soon as he returned, the senior assistant departed on holiday, but there was a period just after my arrival when I found myself in sole charge of the hospital. I had not done a great deal of major ophthalmic surgery although on a few occasions I had performed the common major operations on the eye, and I now found myself confronted with long lists of simple procedures to be carried out on my own. I was fortunate in having the help of a Sudanese, together with the Midwife, had been recruited from

Mountbatten. After a week of planning and recruitment, it was possible to present a workable hospital with 17 beds devoted to ophthalmic and four to medical.

The really important ophthalmic department had been constructed by the local authorities in a very modern unit under the supervision of the Chief Medical Officer, who happened to be a close relative of my senior assistant. Within a very short time, experienced practitioners from all training centres and were recruited for each one of us to see 1500 patients on a day. We were assisted by orderlies and nurses, one of whom had been with the order for many years. He was an ardent and knowledgeable ophthalmologist, although I do not think this he would enter into it now. His view of vision and the perception of the situation were so rapid that I often wondered what stimulus and opportunity, how far he might have gone in his profession.

The surgery which had been carried out by the Order during the 10 years of the hospital's existence had been largely confined to operations for cataract and glaucoma. In this one must add a large number of procedures for correction of strabismus of the eyelids. This was a small number of cases in which both my assistants were particularly skilled. The overriding problem was that of more advanced strabismus in which, when asked to see the almost ubiquitous children of strabismus, concerned a great number to sight. Indeed, if one were to walk through the streets of Old Jerusalem, and observe the eyes of the passers by it would be rare to see anyone whose eyes appeared to be free from evidence of strabismus.

Everyone put together with a well paid nurse a very short time to ascertain success of work had been completed and many improvements were being added to our facilities, almost daily. The ophthalmic unit, assisted, presented

*The previous night under treatment was: 100 Green. As a physician appeared in 1948/49/50 1948.

secretly different from that in London. We were accustomed to rubric in both cases of women's hair as found in the churches of those and later times were the rule among the young people, who were always very long of hair and wore long life in the hair. (During through these inquiries, we could see the dark hair was the deep on the ground. When we pointed asked the members of our of these groups if we might have some images for picture of what what you like was quite explicit, it was pleasant to remember our eyes at Herli, and there was the old Greeklike character which although completely devoid of any formal dramatic, are nevertheless, so not extremely impressive and beautiful. We visited the Lake of Umbria in the company of a six guests married to the English Catholic who were most expert in the town, having been stationed there during the war. On the shores of the lake he asked some to draw on a staff facing the water while conversing themselves were down at the water's edge with a lake and although he said in a perfectly modern tone of voice, his audience would have every word he said. The picture a natural conclusion that it was quite clear how ready the artist would have found the Lord Jesus.

In London our medieval fashions were sometimes restricted by the Jewish Authorities, in one sense. I saw the names of some of our members of our professions of international renown. I thought how fortunate the city of Jerusalem was.

When we were Jerusalem for the first time and approached the Damascus Gate of the city, one of the most important of the walls and systems are constructed by Salomon the Magistrate. As we entered the large portal of the Damascus Gate, the view and border of another entered our full behind and our walls constructed a scene which was a new display but this scene the days of the New Testament. The narrow alleys and the ancient houses, the freedom and the quiet we experienced when were for the first time. The houses in which our hospital was situated overlooked the Church of the Holy Sepulchre and every day on my walk to work I would think the Via Dolorosa. It is impossible to escape from the atmosphere of religion, but the approach to the East differs very largely from our own. The Church of the Holy Sepulchre, is probably the holiest place in Jerusalem but the atmosphere there lacks the mystic and majestic majesty of a Gothic cathedral in Europe. The church itself has been built over by various subsequent cities over many years and is really very slowly celebrated. A monk who would dare to enter a place sacred, with a picture of the church in question in his hand would be in great hostile physical danger. The Court

Patriarch Church, which is a collection of the best.

Shortly after we were in Jerusalem I made my call on all the appropriate dignitaries and among these was the Patriarch of the Greek Catholic Church. I had been invited, of course, before I made my acquaintance and I did not see the Patriarch himself for some time. After days I think I received a request from the Patriarch and so he met me at the appropriate time. I did so and according to my brief before the conversation with the Patriarch I understood that Your Honorship was at Cambridge the old gentleman smiled and pleasantly smiled. Indeed, I mentioned to the Patriarch, that my wife would speak Greek and he expressed a desire to meet her in a month of which he became very kind. He himself had the conversation in a friendly manner, of being able to read and to change. He suffered from Parkinsonism and so we were able to hold some work and read. Every syllable on the subject, a well known man, question. He asked the driver and suffered a sudden change of opinion. He himself asked, my wife advised that she had been watching how he could become his name in order to sign his name. The Patriarch had a couple of photographs of himself which he was wearing a large number of photographs. I was interested in them and when I took my leave he said to me, I would like to see you at the Patriarch would show him his profile. A broken case was daily professed yesterday a thick man, dark, thin eyes which were looking the most of the various colors. It was very simple, to place the man's eyes, in person or after the type, immediately watching him entirely covered with the appropriate colors of the city. Among them was a Gold from our own ministerial church and I was quite happy to see them. One of these was a beautiful piece of embroidery on a job, the other I said the Patriarch is already a well known. From the ministerial and I have forgotten, what it is.

One, a year or so after the discovery of the baptism of Our Lord in the Greek Catholic church, the baptism, also place in the same church. I was so glad to attend this ceremony and found that it was a most magnificent day in that both my relations were very good and that, with a heavy list of operations to be done. I did all these with an unusual list of comfort and joy and all in the end for my baptism. His Holiness sat on the back of the throne and placed himself in a way from the west. This was brought on a horse and I was surrounded with a company of the appropriate monks. I could not see an amount of attention that the horse from which the water had been

MS. to put together a good team and establish a better structure, where a group that had been selected, took from the point of view of training and educational progress. I was to be replaced by a Wing Commander from the Royal Air Force Medical Service, and I am glad to say that when my departure nearly 30 years on there he wrote to me to thank me for what I had done at the hospital. This has provided a wonderful opportunity for young surgeons to gain invaluable experience in practical ophthalmology. Unfortunately in those early days it was not possible to design an appointment for graduate doctors. There were no group schemes to attract these people, but later after the example given by Her Majesty King Harold the interest towards this type of surgery changed and gradually there in those England and America giving rights to many who would otherwise have continued handicapped for life.

Before leaving Liverpool I visited the eye hospitals there, and from the Surgeon Rear Admiral in the Royal Naval Hospital, Cork, and the other from the Surgeon Rear Admiral in the Royal Naval Hospital, Plymouth. Both expressed a desire that I

should join them on my return to England and ultimately the R.N. in Plymouth being the senior one with to put what in service.

I felt I was answering to the Navy a much more serious role than having acquired a considerable amount of clinical experience, though not having the speed and fluency of technique which my two associates could produce. However I was now confident that I could deal competently with most ophthalmic emergencies. At that time many surgeons employed the Czech type of cataract removal and with small deep-set eyes the technique is not easy. One has first to become accustomed to some degree and even then the patient can be troublesome. Nowadays one is much less nervous and has learned to become patient with psychical patients. In that way one can be absolutely successful having a well-trained technique in all cases, but a close link the clinical work necessarily associated various with the Clinic. I have mentioned this to approach the problems of operating on the very young eye, in two other hospitals in the Liverpool, where a little proper preparation from my hands might be useful in the right change in the right time.

Letter to the Editor

Studies on the amide-resistant diurnal ulcer

Sir

Thank you for the opportunity of replying to the letter from Mr Denton and Dr Ramage (Winn 1984 case p. 199). The proposal of my article was not only to provide a review on the amide-resistant diurnal ulcer but also to describe the work involved in obtaining a GIM biopsy. The article described only experimental studies after my death. The work was completed in April 1983. At that time all samples of gastric juice for pepsin estimation were taken at the request of the Endocrinology Department, RMB Haller.

More recently I was involved in a research programme at McMaster University Medical Centre, Hamilton, Ontario concerning the physiological control of gastric secretion. In this type of work it is surprising that Mr Denton and Dr Ramage have found a pH-dependent decrease of pepsin by histamine. This has already been reported by the McMaster Group at the recent national conference of the British Society of Gastroenterology.

The gastric biopsy may explain some of my results, and it is certainly possible that diurnal ulcers may occur in this region at night or even, however my finding of an increase of gastric secretion with antacids is not correct. A recent publication has also found increased nocturnal gastric secretion during emotional tension. Moreover, there are other reports of H₂ receptor antagonists reducing gastric secretion in response to a rapid stimulus.¹⁻³ If nocturnal hypersecretion of acid in duodenal ulcers persists in vivo, it will increase night time acid in men of Ulcer Index 10/10. It is not surprising to find the unexpected effect of H₂ receptor blockade.

Most of the data are very close to my data as normally described in acid refluxing and duodenal ulcers. I am in a valid position that some of the gastric secretion data was not normally described and therefore a Wilcoxon signed rank test was used for analysis of some of the original data. In acid duodenal ulcers however, statistical p

values are elevated using other methods. Mr Denton and Dr Ramage of the Army had access to my original data.

My thesis concluded that the best method of controlling acid and gastric secretion in a person with a duodenal ulcer is when acid is by a combination of an H₂ receptor antagonist with an anticholinergic drug. I believe I am still correct and Dr Ramage's final comment on the effectiveness of ranitidine 1600 mg led to this group of patients concerning However, I was even more impressed by this report concluding a low dose combination of ranitidine 200 mg and pirenzepate 33 mg is significantly better at achieving ulcer healing today over a 14 day period than either drug given alone at twice the dosage. This suggests a role of an H₂ receptor antagonist with an anticholinergic agent supporting my conclusion of two points ago.

I am sir

T. Gledhill OBE FRCS

Regional Registrar

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RESULTS

Control GMS (mean \pm SD) was 19.7 (range 14-24). A comparison of being a doctor (mean \pm SD) was 20.0 (range 14-24) and being a nurse 19.1 (SD 4.0).

Table 2—regression equation and age factor were entered. The table is: $y = 0.0001x + 19.7$.

Table 3—Regression—Intercept

Age	Intercept	Regression (age/SD)			95% CI	
		Mean	SD	SE	Lower	Upper
19.7	19.7	0.075	0.12	0.0823	0.01	0.14
19.7	19.7	0.075	0.12	0.0823	0.01	0.14
19.7/19.7	19.7	-0.005			-0.01	0.01

Age 19.7 years, intercept 19.7.

Table 3—19.7 (SD) should not be (19.7/19.7) 4.

Age 19.7 years, 19.7 (SD) should not be (19.7/19.7) 4.

The Royal Navy Medical Club

The Annual Dinner of the Royal Navy Medical Club will once again be held in the Festival Hall at Greenwich on 20 September 1995. Tickets are expected to cost about £30 and there will be a night time Westminster Fair.

The Annual Reception will be held on 19th September 19 May. This will be the last reception, which has been held since the day is coming to the end of his life and London (London 1995) is expected to have to have (London 1995) which during the next year.

Details of these events will be sent to all Club members.

Membership of the Royal Navy Medical Club is open to all serving and retired medical, dental and medical service officers of the RN or RNL, and (QARMS) officers are expected to become members while serving. Life membership costs only £1. All members are eligible to attend the Annual Dinner and Reception and are invited to visit the Club for which is available from the Secretary.

Applications for membership should be made to the Honorary Secretary, Royal Navy Medical Club, First Avenue House, High Holborn, London WC1N 4BB.

DUNFON VICE ADMIRAL R J W LAMBERT
GHF MA MB BSc FRCR FRCM FRCR DPH DPH

23 April 1929-1 November 1982



MEDICAL DIRECTOR GENERAL (NAVY)

22 June 1980-1 November 1981

CRITICISMS

A memorial service for the late of Surgeon Vice Admiral Lambert was held at St Mary's Church, Adelaide, on 29 November 1984. The following is the text of the address by Surgeon Vice Admiral Sir James Watt.

In my introduction to his clinical work on Roman soldiers, F. C. Sauter described the character of the Romans as the Roman Empire at its peak: 'in action, the virtues they most admired, the highest measures of purpose, dignified ardour, daring and a sense of duty. They were qualities which would have helped inspire men like Sir James Watt. Admiral Rogers Lindsay, Michael Dennis Ouseley of the Navy, who died on 1 November 1984. Throughout his long and painful illness, some with the same age, friends and associates who derived from his sense of duty and courage, Rogers was the affection and admiration of all who were involved in his treatment, so when he showed unwillingness to any and every assistance. This attitude to two generations and the implications of the diagnosis, he was concerned only for his wife and family and for the Royal Naval Medical Service, making his exceptional based on the belief in one of his most useful periods in his history.

His own was better equipped to guide it. Rogers a royal naval background, medical and technical experience, administrative flair and his fervent and magnetic thinking, coupled with good personal charm, warm humanity, compassion and a sense of a good sense of fairness and, above all, the right personal integrity, made him uniquely fitted to lead the highest achievement.

The son of an English Rear Admiral, his father's death created a wide spectrum of experience in clinical and occupational medicine, he joined the Royal Navy in 1953 and soon found himself a Surgeon Lieutenant in the Fleet Air Arm at Malta, in 1958, by appointment to the International Emergency Training Task in 1960. Rogers opened the way to a reputation across an international community. This included appointments to the United States Navy by his training as a nuclear submarine, before his appointment in HMS Devonport, the first Royal nuclear submarine, to his Senior Medical Officer.

This recognition of having entered an arena, continued with the national administration and resulted in a series of papers on radiological evidence, infectious laboratory, occupational evidence, sociology and population groups. His lecture at Singapore Command in 1965 and Congress at Georgetown and Baltimore, Maryland in 1968, when he was appointed Senior Medical Officer of the Bethesda, Medical

Research Clinic at the Royal Naval Medical School, Washington the following year. Rogers the author of a new textbook of Naval Medicine. Rogers was one of a small group of hard of heart and hard-working officers whose vision and commitment laid the foundation for the interdisciplinary approach and teamwork that now characterises the approach to the support of fleet operations. It was there that it came to him that he was not looking at a colleague in his respect and a friend in his regard. He could be moved to anger by conduct which fell short of his high standards and was never afraid to speak his mind. Yet such was his humanity that he would graciously take the trouble to explain the reasons for his displeasure and express affection to soften things.

Rogers coordinated research at the new Institute and was promoted to Surgeon Captain in 1974, before joining us, in the Medical Department in Directorate of Health Services, when his career moved from medicine, professional support and career, judgement exercised a political influence.

But Rogers was not an unbridled specialist with a penchant for research. He practised a broad range of care of medicine and as a senior officer in clinical work, committed through surgery, training, education and advisory courses for his peers, which formed his holistic approach to development. It moved him to state that holistic approaches were approached with clinical practice. He served as Senior Medical Officer in the Joint Services Practice, Chief of Staff from 1973-78 and as Medical Officer in Charge of the Royal Naval Hospital in Gibraltar from 1977-79. Much of the credit for the success of these clinical appointments is due to the outlying support of his wife Lois and to the practice hospital. While they both so generously extended to all needs and ratings, creating a family atmosphere in which the great age was able to flourish.

Rogers was promoted Surgeon Rear Admiral in 1980 and accepted the Institute as Medical Officer in Charge and Dean of the School of Medicine. In that capacity, a gift to his life as the founder of the Royal Naval Medical Service and his vibrant enthusiasm for the cause of duty and an elegant sense of ethics, which shaped into what he might have done under previous conditions. For him, standards were of importance, knowledge and technology, the service, research and clinical performance as well as education. No doubt, he responded personally to human development, policy, by accepting the challenge they offered indirectly to reshape the structure of the Navy as order in military science contracts. The role of the Service was prominent, demanding, versatile

and resources more readily supplied by broad general training with special interests than by narrow specialization. He directed students to encourage all who were willing to develop their potential under educational scrutiny as a step towards the naval medical career, and he fostered collaborative research at sea when he was engaged on his duties as commander, a virtue which Wicket suggests is the virtue of all. He encouraged students and professional leaders and gave consistent support to the United Services Section of the Royal Society of Medicine.

After leaving the Institute, Roger was appointed Surgeon Vice Admiral of Ships and Establishments before taking over Surgeon Medical Services. He was therefore suitably qualified for the office of Medical Director General to which he was appointed in 1983. It is a tragedy of the greatest dimension that his untimely death has deprived the Service of one of its ablest and most experienced administrators whose qualities of leadership have never been surpassed. There is perhaps no more fitting epitaph to the life of Surgeon Vice Admiral Roger Lambert than some words of John Ruskin.

*Every noble life leaves its fire of itself
which burns in the work of the world.*

In the early history of naval medical education much of his life will be found in lecture-roomed pillars.

*Surgeon Vice Admiral G. J. Miles Thompson
writes*

I have met Roger Lambert when we were Surgeons in command together at Malta in the 1960s but my paths diverged, and I did not get to know him well

until he moved to Medical Director General which I was Deputy and continuing now.

His broad knowledge and experience of the Navy and the wide circle of friends and acquaintances, both within and beyond the Service, made him extremely valued in the post of Medical Director General (Malta). He quickly made his mark, rightly seeing that a Service establishment would be the most secure in the history of Defence during his present office. As a distinguished head of the Royal Naval Medical Service he was a man of authority and ability, friendly and approachable yet always clear on his own mind as to what the Navy required of its Medical Service and determined to maintain the standards he considered to be necessary. To his staff in the Department he was always ready to listen but quick to point up positions which further work was needed. Meticulous in his memory of his facts, he was an experienced and effective Whitehall Warrior, and a man qualified for the highest Service when his duties prevented his further participation in the management of the Defence Medical Services Headquarters.

To me as Deputy he was a comfortable mentor, a stimulating colleague and a kindly and permanent friend. We spent many hours talking over the problems of the Navy and of the Medical Service and endeavouring to find solutions to the intricate problems that always pressed. To the end he brought a calmness and a very rational politeness of people, a sense of contingency and a delightful sense of humour.

His concern for the future of the RNMS never faded. I first saw him clearly before he died, when he gave me a few cogent and far-reaching comments about the way ahead as he saw it. Cut off suddenly, Roger Lambert's passing is a tragedy for his family and for the RNMS.

Ames, Princeton, Oxford and he served overseas as Surgeon in Colombia and Malaya. For the rest of his Service career he was in the Portsmouth area. After his retirement he continued to practise as a CMBS being at Brighton.

Anyone who met Sydney must have been struck by his attention for every common theme and humour. He was surrounded by friends and with a delightful and genuine laugh. A keen tennis player, he was one person in the Navy who was English championships at Wimbledon, while the authorship of the popular happy days pseudonym was contained that of the player. In the DTT field he proved a highly professional as he was on the home while his side on gardening was always well in evidence.

Sydney was outstanding in many unexpected ways and will be sadly missed by his family and all who knew him.

**SURGEON CAPTAIN F. E. FRASER MD
FRCP FRCS FRCS CMB and a Fellowship of the Royal
ex. 11 November 1941 at the age of 71**

Surgeon Vice Admiral Sir Derek Collett of the Navy.

From Franks qualified at Glasgow University in 1924 and after various medical and research posts, appointments joined the RNMBS at Brompton 1934 being actively and energetic member of a batch of his new Surgeon Lieutenant rank coming at Harlee the completion of this he was 1 below, appointed to HMS Phoenix for five days thanks of his early appointment as a new lieutenant in the RNMBS and he subsequently served on the China station where his strong character in the microscope and the laboratory and his character by an infectious spark on the diagnosis of acute infections. In 1940 he was awarded the Distinguished Service Medal for his work. He was promoted to Surgeon Lieutenant Commander in September 1941 and appointed to the Royal Naval Hospital Haslemere where he remained his arrival year being recognised then on completion of the normal spell of duty and achieving promotion to Surgeon Commander in 1945. It was at Haslemere he remained in the country and joined 1949 experimental Surgeon at Forth for a period. Then following a spell in the RNMBS returned to

returned to RNMBS Haslemere in 1948 as Senior Specialist in Rheumatology. Three years later he was appointed to RNMBS College and as Senior Medical Officer. He had always been a good reader and an engaging mathematician, and this appointment would give him ample opportunity to read and teach of which he was proud and proud.

In 1953 after a spell in HMS Transport, he returned to Haslemere as Senior Specialist Paediatrics and as medical officer in charge of the Rheumatism Unit. During that time period he had written several and passed up both the French Medical Award and the Cancer Conference, numerous references and Q. J. In 1959 he was awarded the Public Medical Prize and the Royal Edinburgh Prize for his research papers on the Rheumatism 1959. He was awarded the RNMBS Medal for three years and was finally appointed to RNMBS Haslemere as Consultant in Paediatrics and Rheumatism. In 1961 he became to Honorary Physician to the Queen. His retirement came was accelerated by acquiring the FRACP and also the FRCP in 1964 and he was subsequently admitted to the Fellowship of the Royal College of Physicians in London. He was placed on the Retired List in March 1968.

Many civil and civilian colleagues must have happy memories of FC during his spells in the Portsmouth area, and of his wife Dore and the cheerful beginning at their house at Little Island.

After leaving the Navy, Frank worked in Harlow as Director of the Public Health Laboratory and as Consulting Rheumatologist to the Regional Hospital Board. For a decade despite some illness and severe restrictions, he was a good and active. Following retirement he became an official club man. In fact, much against his intention, strongly asked to return officially. However, he was determined to continue with part time medical work at general practice. This he did and enjoyed along with his own and his own age by which time he was physically unable to continue writing and stopped involvement in a voluntary capacity on his home and garden which he did not maintain. The general condition rapidly deteriorated, however, and necessitated further admission to hospital where he died peacefully last November.

I personally have warm and happy memories of FC of his friendship, his sense of humour and his lively manner. He was a generous man with a strong and not young character. He will be most missed by his many friends. We all who knew him, will be especially in Dorset and to his two daughters, Rosamund and Susan.

We have now read the volume on the life of **DR F CAMPBELL GOSLING MR CBE FRCP (MR) FRGS** from Glasgow University and the *John Murray* list.

Dr Gosling was Director of the Department of Physiology at the Middlesex from 1956 until his retirement in 1967 and was Civil Controller Radioactive Isotopes during this period. He died aged 83 on 17 July 1984. His wife survives but with very poor and not good health.

Full details of his life and achievements have been published and as a memorial service on the Queen's Chapel of the Seven Bishops, colleagues and representatives of the many organisations which he had so valiantly served, it may be fitting that his eulogium at the Middlesex, Science Festival.

Many officers within the Campbell Gosling's superdepartment (the Royal post-graduate school) in several medical officers and was only a sub-department. This made a great opportunity for the training of sub-department in the New post-graduate school, and for higher qualifications and procedures to which experience in post-graduate training was not totally required. He believed in the need for Group—single super-department—and kept a separate post in the Middlesex for sub-department (from the Navy and RAF) and subsequently took part in their campaigns at ASCAR. At the Middlesex was obtained with a new and a large reporting team called by various. On reporting over a film and while waiting for the report, and was expected to look at everyone's film. It was possible to see virtually everything that went through a busy department. Officers were called to see officers to be shown a follow-up film to look and come to look through for things by improving the other cases and showed to be the trouble of everything else for all cases, and nothing could be showing.

From his published work many will remember his article on the structure of the Department and the Middlesex sub-department for the manuscript published from the original collection of documents from sub-department of the Royal Medical Development Project.

Campbell Gosling was a sub-department of the Middlesex Research Council Developmental Science Fund and was held in the Middlesex after any other was considered. It was of enormous value to have Cuts at Glasgow and colleagues in the North Devon, Devon. It is pleasing to recall his quiet but very active and efficient work over the past few years.

In his youth Cuts Gosling had been a golfer and

an excellent golfer, a player in England he became a Member, a player and was first of order during numerous years in the West Indies. In the winter he was a keen skier and in 1954, enjoyed some skiing on the Whistler in Scotland but particularly during his return to Scotland every summer. August, enjoyed some modern the other sub-department facilities. His last days in 1984 while others taking and he died in Devon.

A man who lived life to the full and with tremendous style.

SERGEANT CAPTAIN R. W. CARLSON FRCP (MR) CBE RMC From and Medical Officer (1956, The same RMC from 1956 to 1961 died on 31 May 1984 at the age of 71.

Robert Carlson graduated from Glasgow in 1904 and joined the postgraduate RMC as a Postgraduate, Glasgow Lamentation October 1910. Medals in July 1918 he was appointed in 1918 (July) and subsequently served in RMC, Chatham, RMA, Royal and in 1925 (February). On return in 1926 he took up an appointment in the Prince of Wales. Glasgow in 1931 he was appointed Queen's University Professor and a Civilian. On completion of the Royal Navy in Scotland in 1934. He held the Postgraduate RMC, Devon and Chgo.

SERGEANT LIEUTENANT COMMANDER W. E. CARLSON FRCP (MR) CBE FRCP (MR) CBE died on the Royal Naval Hospital, Devon on 4 December 1981.

Wynham Ray, Devon was born on 2 June 1908 and educated at King Edward's School, Birmingham and at Birmingham and London Universities. He joined the Royal Navy as a Surgeon Lieutenant in 1930 and served until 1945. He was appointed, awarded RMC Surgeon. In 1946, Devon, Devon and the Royal Naval Medical School, Devon. On leaving, the Navy he entered Postgraduate Development MF in the First Division of Birmingham, which was held until 1960, when he was appointed Sub-department of the Middlesex Research Council Developmental Science Fund (1960) Member of Devon Developmental Science Fund (1962) and then was involved in research on postgraduate and research in Devon, Devon and the University of Texas. He was a Member of the Society for Underwater Technology and a Member of the Royal Medical Society.

DEFENCE MEDICAL SERVICES DIRECTORATE

Appointed 2 January 1961

Deputy Surgeon General (Research & Training) and
Director of Royal Naval Medical Services

Surgeon Rear Admiral J. J. Adams (Retiring) CBE
Medical Director & Chief of Staff (RNM) 1 November 1956—
2 January 1961

Director of General Dental Services



Surgeon Rear Admiral J. J. Adams (Retiring) CBE
Surgeon and Chief of Staff (RNM) Dental Services 1 November 1956—
2 January 1961

Deputy Director (Engineering) and
Director of Royal Naval Medical Services

Surgeon Rear Admiral J. J. Adams (Retiring) CBE
Appointed (retiring) Royal Naval Medical Services 2
January 1961

Deputy Surgeon General (Operations) and
Director of Royal Air Force Medical Services

Surgeon General J. C. (David) Gifford CBE
Chief of General Staff, Medical Services, August—
December 1956

Director of General Nursing Services and
Director of Royal Naval Nursing Services and
Director of Royal Air Force Nursing Services

Mrs. J. Gifford—RMC (RNF)

Deputy Director (Personnel & Technology)



Surgeon General J. C. (David) Gifford CBE
Deputy Commandant, Med. D (Dentistry)
1949-1955

Assistant Surgeon General (Hospital)



Surgeon General A. J. S. in a military uniform.
 Chief Officer, U.S. Army Hospital, Walter Reed,
 April 1914 - August 1915

Assistant Surgeon General (Hospital) in U.S. Army



Surgeon General A. J. S. in a military uniform.
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 April 1914 - August 1915

BY HIRSHALL AND DEPTAL STEPHENS

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

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Abstract

The 40-page *Winn-Dixie* #1 is 1994 issue, as promised in *Winn-Dixie* #2 November 1993. Larkin has been really up the front end of several *Winn-Dixie* issues and more.

Stephen Canale (D) is a writer, producer, and award-winning filmmaker. His two-hour film *Proclaim: The Story of the Pentecost and the Birth of the Church in Our Generation* is the most popular video in the United Methodist Church and will also receive a Best Film Award as an Oscar nominee.

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

Analysis of Variance of Covariate X_i by Regression

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Figure 1. Model of the relationship between the individual and the environment.

Simpson's Leadership: A Query – P. 31
 Simpson's Leadership: A Query – Mike Cady
 M. J. SIMPSON

APPENDIX 1: MAIN RESULTS: PROPOSED MODEL

W. Ferguson *Non-Aligned on 7 January 1980 and
reprinted Ferguson, *Non-Aligned Operations of
Military Services*
J. N. Cambridge 1980.*

Aggravated Medical Offense in Charge: Insurance Fraud
 David W. Wright, Jr. and J. Anthony Wright
 Southern University, N. W. P. Road

The Singapore International Chamber of Commerce (SICC)
 10, Raffles Place

The American Medical Association
1515 E. 17th Street

The *European Mathematical Society* is
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International Association for Penetration Testing
 2018
 Penetration Tester
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The Niagara Commission
C. E. Hudson, M. J. W. Rogers, G. J. Ross
W. C. Cunningham

The following information is for
J. G. Davis, Jr., M.D., Boardmember



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KEYWORDS: child abuse; child sexual abuse; child sexual exploitation; child sexual abuse investigation; child sexual abuse assessment

Support Commanders: B. J. Bagnall
Bagnall, L. (captain), Commanding, 54, 1, 100
Bagnall, L. (captain), 1, 1, 100
Bagnall, L. (captain), 1, 1, 100
Bagnall, L. (captain), 1, 1, 100

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*Surgeon Rear Admiral G. J. Milne, Commander (RNP MA MB RCN FRCS RCN
Medica) (1938) in General (Naval)*

The most significant event will be the participation of the first female in the inauguration of the International Women's Museum, which opens on 12/5. After a long and busy week-long by all (Singapore, New Zealand, U.S.), Mafine Thompson worked tirelessly to achieve this dream and is now compensated as Incoming MDCM, knowing that she will have the best support of all in our organization during these difficult times. To mark the occasion the homepage is a photograph of Singapore Rose Adeline C. U. Mafine Thompson, Medical Director, Cancer at NCI.

process to be the same case and the same HTLV-II could not be given fully accepted.

Nevertheless, as we shall discuss, they propose a sequence between immunoproliferative stimuli of RNA, in order for the production of DNA, which in some RNA viruses might include RNA virus directly, as in the case of hepatitis B virus (hepatitis B). Particularly described human retroviruses are the two HTLV-I and HTLV-II both are associated with T-cell leukaemia. An acute haematological disease (HLL-93) has been linked to HTLV-II as is evident, and the well-known cell or donor link, the development of AIDS with exposure to HTLV-III is now apparent.¹¹⁻¹³

IMMUNOLOGY OF AIDS

In specific immune response, as it is indicated, lymphocytes (T-lymphocytes) leukocytes are present in the blood (10%) which produce immunoglobulins, and cells (10%) which lack it for cellular reactions, and B cells (10%). The cells are further divided into functional subsets, acquired after each several exposure of the same response or with specific cell mediated immunity (CMI). The regulatory cells are either T_H or suppressor (T_S) cells and the CMI is the other response (this is delayed type

response) before the receptor reaction—a lymphocyte—mainly characterizes the variety of molecular antibodies used in generally the response.¹⁴

In the past month has been made of the 'helping' suppression step which was associated to the case of the infection of T_H cells in T_S cells. In further research this case is going to show (2-12) and may be associated by an interest in suppression cells (as in Figure 1) and virus infection¹⁵ or by a decision on T-helper cells, but now clear that it is the stimulus decrease in T cells rather than the increase of the cells which is noticed in AIDS. As we know now, the T-helper cell plays a crucial role after development of the immune response and any disturbance of its function will have severe consequences. Although the definition of AIDS specifically requires a defect in CMI, however currently it is also accepted and perhaps characteristically these polyclonal immunoglobulinemia cases (the so-called oligoclonal response).¹⁶

CLINICAL MANIFESTATION OF HTLV-III INFECTION

The definition of AIDS requires a clinical and serological evidence that persons have been exposed to HTLV-III (documented by) and AIDS is well commonly observed AIDS. This is an important point in the epidemiology of AIDS and HTLV-III infection are often confused. It now seems clear that this, is commonly in some immunological evidence of first such lymphocyte deficiency (and the signs produced in it is called HTLV-III infection). Nevertheless it is evident in the individual immunological on HTLV-III is more here, both optimal in the case, and possible will have all cases of response. However therefore, does not build that the evidence has been obtained from subjects who also display some antibodies. It is not known exactly what proportion of individuals infected with HTLV-III will develop immune problems. Data from a number suggest that up to 10% of subjects are infected and develop AIDS, and in further 10% will have AIDS without clinical symptoms.¹⁷

Why some patients who are infected with HTLV-III do not develop immune deficiency is not known although it is known that immunologic defects with are more likely to develop AIDS than immunologic immunodeficiency. Various hypotheses have been proposed to explain the varying link between exposure to the virus and the development of AIDS. This is been suggested the need for a large dose of virus, mainly dependent on the virus concentration infection with other pathogens¹⁸ or the immunosuppressive effects of virus.¹⁹



where) T_H cells, T_S cells, CD₄ cells are not all the target functioning in both T cells and CD₄ cells. These subpopulations can be observed immunologically (Fig. 1).

T cells have specific surface receptors which are controlled by molecular antibodies and molecules that the infection.²⁰ Any one lymphocyte may express more than one receptor. T cell mature T cells have the T_S receptor in addition to these other markers. Broadly speaking, T-helper cells have a 4 receptor and both suppressor and suppressor T cells have the T_S receptor (although this is not a correct simplification²¹). It was apparent from the early days of AIDS that the primary defect was a decrease in T-helper cells²² and it is known that all other T lymphocyte subsets specifically infected around T_H cells (This profile CD₈ which often

in AIDS patients, although not yet approved. Recently, studies are being conducted with AZD5363, a potent reverse transcriptase inhibitor with HTLV-III activity, as compared. The main clinical difference concerned subjective response rate, even for directly toxic treatment. The other AZD5363-related symptoms were defined before HTLV-III was identified and are useful for epidemiological purposes.

Progressive generalized lymphadenopathy (PGL) is identified in lymphadenopathy in 14 late seroconverted cases by at least two methods: with nodules count, > 1 AZD5363-related nodule (ARL) or prolonged AZD5363 in use to be more predictive of progression to AIDS than PGL. Examples of two cases of failure to find two laboratory abnormalities (Fig. 1a) is given.¹²

CLINICAL FEATURES

Fevers (range from 3 months)
Weight loss (weight loss 10%)
Finger swell
Night sweats
Finger

For case with the above clinical features, given two AZD5363 per se unless they have evidence of opportunistic infection, no response, even though both PGL or ARL have antibodies HTLV-III.¹² The relationship between HTLV-III and its various antibodies can be improved drug immediately.¹³⁻¹⁵



Fig. 1a. HTLV-III infection in AIDS.

CLINICAL FEATURES OF AIDS

Supportive evidence (data) in the continuous and phase studies in AIDS patients. First, in the AIDS epidemic KS was a new disease of vascular tissue predominantly found in elderly men of

American or African background. In addition to this, it is a benign, indolent, non-infectious, a slowly progressive lesion that slowly developed as normal AIDS and is characterized by a characteristic immunosuppression.¹⁶

In AIDS patients, KS was a disease of dermal papillae lesions which can occur anywhere on the skin or mucous and may develop as thickened plaques and nodules. It was very common in 10% of lymph nodes in autopsy studies of the gay men. Patients with KS alone have no better prognosis than those with opportunistic infections and it is possible that KS is caused by a distinct virus.

Other malignancies which can include Kaposi's sarcoma, lymphoma, squamous cell carcinoma of the mouth and eyes and cerebral lymphoma.

LABORATORY ABNORMALITIES

Reduced T helper cells
Reduced T_H1 cells
Increased monocytes
Delayed chemotaxis
Anemia

Progressive acquired immunodeficiency (PCP) is the most common life-threatening opportunistic infection in AIDS patients. The organism is probably acquired or established by the airborne route,¹⁷ and produces sub-clinical infection which is kept latent by virus T cells. As T cell function wanes the organism may reactivate to produce a pneumonia with lower systemic symptoms and radiological evidence of pulmonary infection. The second may be more or less severe. Other pathogens may be responsible for a wide radiological and clinical picture and therefore it is important to achieve an accurate diagnosis as early therapy is required. Open lung biopsy provides the best diagnostic yield (sensitivity 47%) with immunohistology and bronchoalveolar lavage being progressively less effective.¹⁸ The role of direct immunofluorescence in diagnosing this entity and in KS, KS, and its antibody is yet to be established.

PCP should be treated with cotrimoxazole in a dose of 120 mg (i.e. 100 mg trimethoprim and 80 mg cotrimoxazole) per kilogram per day to 4 weeks' dose. If there is no clinical improvement within five days then cotrimoxazole should be stopped and penicillin (in a dose of 4 mg/kg over daily intravenous) should be given in a high resistance (up to 70%) of isolates from patients to penicillin is cotrimoxazole in AIDS patients.¹⁹ While penicillin is a very toxic drug product to oral and topical opportunistic and prophylaxis. When

blood count is 0, the old test is 0.1-0.3% absolute). The laboratory is aware of this pitfall and designates Lymphocytes below 1.5×10^9 /L as the most useful counting rate for possible AIDS, and it is as present there it may be worth progressing to T cell subset analysis and HTLV-III serology.

The treatment of therapy in treatment of infection as they relate with the opportunistic microorganisms (opportunistic) are currently under investigation to inhibit HTLV-III replication (e.g., zalcitabine) and reverse 3 and to reverse immunity (e.g., bone marrow transplantation, cytochrome inhibitors and protease inhibitors). No one is able to show a significant benefit and the overall prognosis remains poor.

THE FUTURE

There is little evidence that HTLV-III infection is spreading outside the recognized groups. A recent UK case reported one female and another male donor and found only one to have antibody to HTLV-III and two were immunoreactive. However there is clearly an epidemic in the at risk groups and we will continue to find with every blood count of AIDS in the future although perhaps not the one defined from the Royal College of Medicine would have at least 1% A counts may become available but as in many of the previously exposed groups are already infected a probably represents delayed testing of the at risk group. It will probably be difficult to produce an effective vaccine as it is known that the HTLV-III antibody produced by both healthy infected persons and AIDS patients is not a neutralizing antibody. Moreover it is unlikely that any attenuated live virus would be considered safe to administer as a vaccine.

Despite these warnings a vaccine will be produced other therapies will appear and more people will develop AIDS. There is no doubt that the future will continue to see more therapies and the vaccine, given by some point in time.

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One only local delicacy, 1 litre of the machine was fish. We had such huge efforts a risk of deep freezing and to drink and eat were needed. The staff were used to having a piece of fish on their table as well, but as it deteriorated it fell off into the fire and remember we had had nothing to eat since breakfast. We certainly gained interest in it which we noticed some cases and boiled the fish over the fire. It could not have been that hungry because it looked absolutely disgusting! Nevertheless, all the fish was cooked that way, and all eaten.

Late, although considerable, amounted a case of patients of the cold belly, of hot place, without movement, and all the time people were waiting, and only found that belly but also on their own waiting to keep warm. Sleep was not.

We had been given a list that the patients would not at some stage during the night, and suddenly at about 0100 there was a flurry of breakfasts and we found that it was finished. The MLs had called a list of four that they had accompanied because we had to (Shedlock and Harvey and I) and about 100 in the dark up from the transport and a very long time to make.

It was obvious that it was time that we should be the ferry that had when we were hours should not in addition had food for eight hours. It was taken down in about 20 minutes. We packed up our

baggage, which by the time when attention came and transported about, the 100 in the port by port. It turned out that we had enough supplies of the food, but only on board everybody was eating within one or two minutes.

The journey took to children took about an hour and we found ourselves being disappointed the ferry to Goshenport at 0600. The morning tea, dinner and breakfast were magnificent.

DISCUSSION

I am well aware that it is hard to prove that women, but a nevertheless gave me a great deal of personal results, 2000 in food, 2000 in, especially from before in normal, and especially this night when I got cold, I had some very close to (Shedlock and Harvey).

The course was valuable and should be available to all who are likely to have to move in food circumstances. In circumstances more dramatically the food for people transported and the fundamental training that must be given if we are to look better and work in these extreme of temperatures.

When one gets home after such an experience there is a lot of questions that completely arise. Did you enjoy it? The answer is yes, yes, it was a challenge. But, on the other hand, I am very pleased to be in food, and (Shedlock and Harvey).

Excessive Lateral Pressure as a Cause of Patello-Femoral Pain syndrome

J. H. Garver and M. J. Evanson, Belarus

Year	1990	1991	1992	1993	1994
1990	100	100	100	100	100
1991	100	100	100	100	100
1992	100	100	100	100	100
1993	100	100	100	100	100
1994	100	100	100	100	100

The purpose of this paper is to show that a significant number of patients presenting with Pilon's-McEvedy fractures are smokers. Initial postoperative (ChLPO) x-rays can be improved using alcohol endoscopy and following a

The synthesis of ILP is a series of positive-feedback steps as discussed. A 1.00% of P^+ will give a 100% of P^+ when the critical level of the last stage has been reached. The consequences and findings are shown in Figure 10. The varying behavior of positive-feedback

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It has been suggested that many maxillary incisors are actually composed of oblique fibres on the mesial side of the profile formed in anterior lateral pressure conditions. The transoblique-maxillary profile is well observed in the paleontological changes found, many in Osmia sp. with the grading process. Anterior lateral pressure (ALP) is now accepted as one of the taphological factors of many known *Osmia* sp.

The change in α -diversity from the average age of 100 years to 100 years and 100 years (small teleosts) and the occurrence of larger fish disappearances changes. It has been noted that diversity of the large mammals is a large relative proportion of the total number of mammals in the world and of the number of the mammals in the world.

LLP may be defined as a form of growth in the level of aggregate human level of welfare, where the welfare is measured on the basis of the welfare.

Thus, the overall educational role of men in the 1990s needs to be reassessed. The progress of women's human capital training, however, will provide the positive reinforcement of the growth model. Advanced attainment of the growth intensity in future may produce some distortion in the form of discrimination, where men are favored.

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There are two kinds of polyoxymethylene, *linear* and *cross-linked*. Both are made by the reaction of formaldehyde with trioxymethylene, a cyclic trimer of formaldehyde. The linear form is used in the manufacture of most of the formaldehyde resins, and the cross-linked form is used in the manufacture of most of the formaldehyde resins. The linear form is used in the manufacture of most of the formaldehyde resins, and the cross-linked form is used in the manufacture of most of the formaldehyde resins.



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For a small Higgs boson ($m_H \approx 120$ GeV), the $\sigma_{\text{had}}(e^+e^- \rightarrow ZH)$ cross-section is predicted to be ~ 1.5 fb, which is only slightly above the value obtained in Ref. [1] for the limit of large m_H (assumed to be 150 GeV). This implies the measured value of $\sigma_{\text{had}}(e^+e^- \rightarrow ZH)$ is consistent with the value obtained in Ref. [1].

The narrowest experimental energy of the Z decays, ~ 91 GeV, would exclude the alternative (broad) limit hypothesis from being significantly above the measured energy of Z decays (assumed to be 91 GeV). However, the Z decays are not observed at the same energy as the H decays, and the Z decays are not observed at the same energy as the H decays.

Indirect endoskeletal types of structures have a longitudinal axis on which they are based by the main axis (Fig. 3). These might include the form of flowers or umbellifers of the form of vascularization (Fig. 4). Lateral outgrowths formance could be present together with the presence of a fascicle, parallel (Fig. 5). Lateral form hyperplasia was also associated with broad area of the main form.



- A Thickening of subcondylar plate
- B Increased density of lateral facet cranial base
- C Lateralisation of tubercle
- D Medial facet atresia
- E Hypoplasia lateral condyle

Fig. 2. Radiograph type A (condylar head type 1).



- A Flare of lateral craniobase
- B Calcification of lateral craniobase
- C Lateral atrophy formation
- D Bipolar points
- E Lateral facet hypoplasia
- F Medial pitella hypoplasia
- G Hypoplasia of medial lateral condyle

Fig. 3. Radiograph type 2 (condylar head type 2).

Table 1. *Unilateral cleft lip and/or cleft palate or cleft palate alone*

Unilateral cleft lip and/or cleft palate	Removal of upper lip cleft lip cleft palate (1)	Intermaxillary fixation (2)	Stage 1 repair of cleft lip and/or cleft palate (3)	Anterior maxillary advancement (4)
—	—	0	0	0
1	0	0	0	—
2	0	—	0	0
3	0	0	0	0

Table 2. *Unilateral cleft lip and/or cleft palate or cleft palate alone*

Maxillary cleft lip and/or cleft palate	Stage 1 repair of cleft lip and/or cleft palate (1)	Intermaxillary fixation (2)	Stage 2 repair of cleft lip and/or cleft palate (3)	Anterior maxillary advancement (4)
0	—	—	0	0
1	—	0	0	—
2	0	—	0	—
3	—	0	—	0
4	0	0	—	—

measurements of the face. All patients were graded on the Orthoclip. With the exclusion of patients 1 and 2, it was no longer apparent that Grade I cleft lip patients had a better hearing effect, which could be attributed to orthosurgery, although clearly diagnosed as cleft lip alone. Little or no lower improvement in children with Grade I changes was achieved by using 100 Hz in the left lobes of the earlobe, being the right ear.

In patients showing three or more of the signs of ILI, a bilateral cleft was predominantly made or made as bilaminar. The findings noted in orthosurgery was, therefore, evidence changes observed in orthosurgery. The cleft was not performed in many cases and used as a confirmatory test for ILI. Also the, I used orthosurgery as a measure of the clinical value, using 100 Hz, and the lower orthosurgery 100 Hz. The orthosurgery is a pulled out in the presence of cleft lip, lower orthosurgery was not.

RESULTS

Twenty-one patients were found to have ILI, in most of the diagnostic signs of cleft lip, facial features (Table 1). A further 10 patients had two of three diagnostic signs. Two diagnostic signs were not felt to be conclusive, although the data points to be labelled as having cleft lip and palate (Table 2).

One of the remaining patients had a marked cleft which was closed, and thought to be the cause of the signs (Table 3). Patients had cleft lip, palate, three of four were seen to cleft on the 100 Hz, and three only on one side on the 100 Hz and 100 Hz.

Right hand cleft lip symptoms caused by trauma. A further data were thought to have cleft lip and palate on the right side. One more symptoms were proved to be caused by poor speech and orthosurgery. The symptoms, related with cleft lip and palate.

Table 10 *Diagnostic criteria for attention deficit hyperactivity disorder (ADHD) as outlined in DSM-IV*

ADHD	
Symptoms (1-18)	
INATTENTIVE	
1. Fails to give close attention to details or makes careless mistakes in schoolwork, at work, or during other activities	
2. Often fails to listen when spoken to directly	
3. Often does not seem to listen	
4. Often fails to follow through on instructions and fails to finish schoolwork, at work, or during other activities	
5. Often has difficulty organizing tasks and activities	
6. Often avoids, dislikes, or delays tasks that require sustained mental effort	
7. Often loses things necessary for activities or tasks	
8. Often forgetful in daily activities	
9. Often forgetful or loses things	
10. Often forgetful or loses things	
11. Often forgetful or loses things	
12. Often forgetful or loses things	
13. Often forgetful or loses things	
14. Often forgetful or loses things	
15. Often forgetful or loses things	
16. Often forgetful or loses things	
17. Often forgetful or loses things	
18. Often forgetful or loses things	

When parents had observed pathological signs of abnormalized profiles in attentionality, but no other pathological features were present, 10 children were of Grade 1, 10 were of Grade 2, and two were of Grade 3.

All children presented with intense loneliness. All had normal profiles on IQ and ethology. Clinical assessment was normal apart from a positive Demand/Clash questionnaire, considered to be of significance. The etiology of these symptoms could not be traced.

DISCUSSION

Attention deficit hyperactivity disorder is a common childhood disorder. There is a high public understanding of the disorder, but not enough and perhaps harmful pressure.

The parents in Study 1 were concerned for the behavior of their sons, who were socially isolated and the schools did not have enough formal support. The school staff had no formal training in the area of

child psychiatry and were not able to provide a diagnosis.

It is proposed that there are four diagnostic criteria that include attention deficit hyperactivity disorder. These are: (1) a history of inattention; (2) a history of hyperactivity; (3) a history of impulsivity; and (4) a history of conduct disorder. The diagnosis should not be made separately or made of these four parts.

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Primary (non-carcinoid) adenocarcinoma of the vermiform appendix—an unexpected finding following appendicectomy

R. Conroy and A. R. Muggidge

INTRODUCTION

Primary adenocarcinoma of the appendix is rare and its diagnosis is reliably made on the basis of gross pathology in surgery. Histological confirmation of an appendix removed as an emergency is a common mode of presentation and which determined the subsequent surgery an important variable factor.

CLINICAL SUMMARY

The patient, a 71-year-old male, presented with a three day history of right iliac fossa pain which was increasing at evening. He was admitted as a surgical emergency. Some 12 days post-surgery he had returned with an upper respiratory tract infection associated with anorexia, but no abdominal symptoms or changes of bowel habit.

On examination he was physically fit apart from mild pyrexia and tachycard conditions over his thorax region. The pleuro-pneumothorax was not there, was present about guarding with elevated tenderness. Bowel examination was normal. The peripheral white blood cell count was elevated at (16.5×10^9) . On the basis of these findings a diagnosis of acute appendicitis was made and laparotomy was arranged.

At operation the appendix was found to be distended with evidence of inflammatory reaction on the surface, but no perforation or signs of generalized peritonitis. A single appendicectomy was performed without difficulty.

He was subsequently taken to a specialist surgery when the work of histopathological examination of the specimen having revealed (paraffin). The unexpected finding of adenocarcinoma in an adenoid appendix, required a gastroscopy to be

performed to ascertain whether further polypoid lesions were present in the caecum colon, i.e. its mucosal polypoid. The examination was negative but, in addition, on weekly gastroscopy, he had no family history of polyps.

Further regional histology, covered up following a right hemicolectomy. Macroscopy of multiple blocks of tissue from the specimen including a number of enlarged regional mucosa or lymph nodes failed to show any residual inflammatory carcinoma. In particular there was no carcinoma in the wall of the appendix or in the caecum. The epithelial dysplasia was found at the terminal jejunum (up-bow). During surgery the liver was also carefully inspected and appeared normal. The patient made an unremarkable recovery from the operation procedure and has remained well to the present time.

PATHOLOGICAL DESCRIPTION OF THE APPENDIX

The specimen measured 27 cm long appendix with histology available of the caecal part over a length of 4 cm. The mucosa appeared congested and contained inflammatory reaction. On the cut surface the lining of the caecal part was pink grey and fleshy.

Histology revealed a columnar type of well differentiated polypoid adenocarcinoma involving the mucosal part of the large (Fig. 1) with various submucosal penetration and metastasis of the important mucosa propria. There was high grade evidence of some dysplasia (Fig. 2). The pattern spread from being extremely well differentiated in the important terminal part (Fig. 2) to highly less well differentiated more irregular and



Fig. 1. Low-power photomicrograph depicting the appendiceal lumen. The mucosal folds are filled with mucus (H & E, $\times 100$).



Fig. 2. Photomicrograph at low magnification of the mucosal folds. The folds are covered with a layer of mucus. The underlying tissue structure is visible (H & E, $\times 100$).



Fig. 3. Photomicrograph at low magnification of the mucosal folds. The folds are covered with a layer of mucus. The underlying tissue structure is visible (H & E, $\times 100$).

discrete mucosa-submucosa layer (Fig. 3). The appendices, particularly in low-power examination, were very suggestive of the tissue lining seen in a premalignant intraepithelial adenoma. Hyperplastic and dysplastic areas failed to reveal any evidence of APUD cell differentiation and distinct chromogranin demonstrated only two specific features of adenocarcinoma.

Local invasion was complete with no evidence of capsular involvement of the mucosal layer and there was no evidence of vascular invasion. On the basis of these findings and those on the subgroups of

right histologic features, the tumor was locally categorized as Grade A.

DISCUSSION

Primary adenocarcinoma of the vermiform appendix is rare, and many of the affected cases in the early literature failed to provide adequate evidence for diagnosis before disappendectomy. Indeed, in the first case reported, the tumor, which presented as a fungating mass on the right cecum, was probably seen at the time but rather than the appendix, although the tumor was involved.

More recently, there have been numerous reports of the subject, with the introduction of definite means regarding definition in order for cases to be included. In the largest of these, 24 appendiceal adenocarcinomas were described with a 5-11 year predilection, and an average age at diagnosis of 50-6 years. While all showed fairly well-known 10% of cases presented with appendiceal adenocarcinoma of mixed histology and 50% of cases were diagnosed after mechanical appendectomy performed in part or in whole, with some other original presentation such as cholecystectomy or hernia repair. Some were diagnosed preoperatively.

From the histopathological point of view, there appear to be two distinct subgroups consisting with approximately equal frequency. The well-differentiated neoplasms closely resemble their colonic counterparts in the case presented, and may be associated with various degrees of dysplasia changes in the adjacent mucosa, indicating a possible origin from a premalignant adenoma. The other subgroup is a poorly differentiated neuroendocrine type composed of small, round, uniform cells. Characteristically, neuroendocrine APUD cells may be found in either subgroup by appropriate immunofluorescent or immunohistochemical methods. The distinction from a poorly differentiated tumor is illustrated in the relative paucity of cells showing a positive staining reaction.

Since the vermiform appendix represents an extension of the large bowel, the same principles apply in grading and staging as for colonic adenocarcinoma. It is recommended that only when there is substantial evidence of invasion into the wall should the diagnosis of adenocarcinoma be considered. If this principle is not applied or applied and appears to require with progress as a viable basis to that is in the colonic adenocarcinoma.

There is undoubtedly a developmental relationship between the appendix and the cecum, and some evidence has been presented to suggest that the appendix is a remnant of the cecum. The appendix also shows features and histologic epithelial morphology of the

appears to be more difficult to detectable in women, the action usually by symptoms seems to follow up the feeling of abdominal oppression, attacks of nausea or vomiting.

Although it is universally accepted that patients' satisfaction of the appendix is low, the special tendency in appendicectomy specimens comes forward (Pitt 1987). That very low satisfaction is, probably, a reflection of the comparatively low medical value of the appendix referred to that of the colon.

Patients' choice of appendix of a colectomy is based on the value of considerable autonomy. As stated previously the diagnosis (study) of some mild disease goes usually, implicitly, the diagnosis may be supported in symptoms and confirmed by direct action. Most cases commonly however, it is established independently on histological examination of possible sections of the appendical appendix. In other words, the already known, isolated appendix which possible a right hemicolectomy.¹⁻³

The main rationale for this is that a diagnosis of carcinoma makes an area concerned of patients with the possibility of lymphatic metastases. Proctitis syndrome is a chronic condition to examine repeated biopsy (data) for evidence of metastatic spread and these are of course incorporated as well as proctitis (proctitis). Also it provides an opportunity for examining the fine and personal cancer cells of cancer, the biopsy of open biopsy for histological examination. Right hemicolectomy is also recommended in following pathogenesis of an appendical carcinoma. Contradictions in the procedure might include the general medical consensus of the patient, or the presence of distant metastases.⁴ In the last two decades the importance of the appendix does not have any recognized place in management.

In the context of surgery, surgical procedure that are more advanced points including management. Firstly if appendicectomy is performed in the management of a surgical lesion, the appendix is not usually, usually, or, on being the management to detect the specimen without a consensus should be spread even though the effects of finding, symptoms is critical. Secondly, as a measure to avoid any, inevitably, the probable appendix is described in clinical appendicitis, but on account of a surgical site.

CONCLUSION

It is more pleasant to know of the appendix is a low

value most frequently in the in the light and presenting as an isolated finding in an appendix covered by some other disease. Sometimes it is sufficient to get another image, epithelial neoplasia. The appropriate treatment when possible is right hemicolectomy.

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CONCLUSION

Perhaps the diagnosis of lamellar body tumour can be reliably suspected only in the rare cases which involve populations which have a high racial incidence of this tumour as seen in New Zealand. Thus it can be readily diagnosed at the first clinical seeing and avoid the morbidity and economic surgery involved in phthisis.

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Figures 1 and 2 are reproduced by kind permission of Morrison P. United K. Deftchulch, the senior author. *Plaque and Plaque*, 1964, 194/217-241. Drawings by Mr Albert Miller.

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was the patient had progressed on the phase of spinal shock, and the degree had deteriorated only for the last week.

Case 5: Mr G, Age 72

Previously fit, married Royal Naval Fitter was diagnosed as acute sensory neuropathy. There was no loss of sensation, but he gave a rapid onset of numbness and discomfort bilaterally over a two-week time period together with a cluster of weakness and sensory disturbance in his left.

Examination revealed a pinprick bladder and bilaterally normal passive Waddell's and Alcock's sensory loss over the legs. Lumbar pain X-ray showed degenerative changes only but X-ray forward revealed a wedge collapse (distally of T4). The compression fracture involving vertebral bodies was not immediately apparent and he was treated for sensory neuropathy by physiotherapy.

Five days after admission a further examination was performed. No deterioration was seen up to T12, the upper limit of the neuropathy was. Method of intrathecal injection also then showed neurological examination at this stage revealed only isolated signs of cord compression at T4 with sensory level at the inguinal and spine pain signs with neurophysiology and radicular phenomena (RP) changed at the lumbar radiculopathy area. In spite of therapy with steroid block with methylprednisolone and plasma exchange at T4 g/l.

Neurological signs were changed and a diagnosis of acute neuropathy at T4 due to toxic reaction to steroid from an unknown primary or cause. The next neurophysiology was considered as advanced for surgical intervention and he was treated with local radiotherapy. He continued to improve but died of pneumonia four months later. Post mortem examination confirmed initial diagnosis. T4 revealed body from a previously unreported metastasis of the spinal cord.

Case 6: Mrs F, Age 48

A housewife, was admitted for routine obstetric care after a full term, uncomplicated a year of amenorrhoea but had gained too weight of over 5 stone (35 lbs) in a five year history of back trouble and chronic weight increased (weight of first part weighing up her left leg, requiring both one and two people. In addition she complained of persistent numbness and burning symptoms of her left leg. There was no sensory symptoms.

She made an unremarkable recovery from her last pregnancy. There was therefore here no abnormal past and

neurological or constant original pathologic of peripheral neuropathy in both legs (RP), started on the left knee and middle palm area back with multiple areas of bilaterally spreading history. (Neurological signs were absent. There was impairment of sensation of proprioception with sensory level at T10.

A gradually progressive spinal cord lesion was suspected. Plain X-rays were normal but magnetic resonance demonstrated an abnormal focus at the lower thoracic spinal canal.

At operation a biopsy was strong from the thoracic spinal cord in the T10 level and this has subsequently improved anatomically.

Case 7: Age 40

A married MRS. Fisher (husband was admitted with a three week history of sharp right lumbar pain radiating to the groin and a three day history of severe low back pain radiating to chest and right parasternalic in both legs and legs, as well as difficulty in passing micturition. His history was but not in neurological signs and results returned from the GP. A wedge fracture (inferiorly) was first described as having a large left superior lymph node. His GP's neurophysiology had shown an ESR of 100 mm/hr but a normal PRC and MRI.

On admission he was unable to stand unsupported and with grade 2 weakness of all leg muscles. A sensory level at the thoracic level was thought T12 and his leg reflexes were normal. No change was observed while his left plasma was drainage up and the right epidural. Abnormal infection was not detected. Emergency radiography revealed a compression fracture block at T12. Although drainage and further plasma X-ray were normal.

He was transferred to the Regional Neurosurgical Centre within four hours of admission. A decompressive laminectomy was performed at T12. A pinuloma, nerve was found and removed. The histology showed two Hodgkin's Lymphoma. Follicle centre cell neoplasia and diffuse.

He has been treated with combination chemotherapy and physiotherapy. The improvement has been remarkable (the weight loss 10 stone in a week. Current examination shows grade 4 leg's sensory normal reflexes and no sensory loss.

DISCUSSION

These cases are clinical diagnostic points. They involve the possibility of the onset of development of compression and confirm the diagnosis of lymphoma over years in the early stages of cord compression. In such cases there was delay in diagnosis because the possibility of cord compression

1980, 1981, are thoroughly considered, by both general practitioners and hospital staff.

Spontaneous remissions are only confirmed the diagnosis but indicate the level of the lesion. In case 8, a further neurological re-examination when clinical manifestations would have shown substantial cure, is to be more appropriate.

CNP is an anatomical focus A and B (intracranial) the history of spinal injury (Pain) (spontaneous) bleeding, cerebrovascular, flow also and partly elevated protein concentrations. However, in another case is CNP (pressure) and variability with respiration recorded. Low CNP pressure and level of breathing measurements as a case of increased spinal block. In most, however, the clinical data (lower pressure) may not further (disproportionate) the pressure of spinal cord compression, or cerebrospinal should only be undertaken after consultation with a neurosurgeon team.

Diagnosis of spinal cord compression therefore, rests on the history and clinical distribution. Neurological neurological signs may be subtle. Lower limbs, pharynx and abdominal reflexes are significantly normal and absent and sensory impairment (including spinal cord involvement) (difficult), weight, the neurological examination may well be more dorsal normal and a compensating response for lateral sensory. Radiology gives no information particularly difficult to diagnose, particularly if they involve signs of abdominal dysfunction) as a Case 10.

We would recommend that a complaint of pain in the upper limbs of trunk combined with sensory symptoms in the legs should prompt a very careful examination to exclude spinal cord compression.

If we find early sensory symptoms, are apparent but a possible the problems for recovery is modified. By the time the patient has sensory level, such a sensory-motor and/or both forms, characteristics of a reasonable outcome are realistic.

REVIEW OF THE CLINICAL FEATURES OF CORD COMPRESSION

1. **Upper Limb symptoms** are the earliest form of local compression, to progress to sensory and motor (as below). The earliest symptoms are of a mild sensory impairment, the patient frequently complaining of a 'tingling' state that is difficult standing there due to weakness of the legs. These, it which, walking may 'wear' leaving the patient to trip over minor bumps and to have difficulty walking over rough ground. These symptoms are worsened by 'crouching' or 'bumping' in the shaft. Late, eventually, the patient may describe how vibration when stepping off heels due to spasm, or a state (Jones). It would be observed that symptoms occur

rather than signs, and it may, be months or years before the well known well legged spine can develop.

The onset of sensory symptoms, after difficulty in standing, movements or both, sensory sensation, is a common development, heralding a rapid progression to irreversible cord damage. Sensory function has a similar block (spinal cord).

Neurological examination may be normal in the very early stages. The earliest signs are of abnormal leg types, for example legs. This can also easily be missed by, and is all too often mistaken as, sensory and it is therefore important to look for 'hard' neurological signs such as reflexes, reflexes or other abnormal reflexes. Abnormal reflexes are increasingly unreliable, particularly in the old or obese, and should only be used to confirm the findings in the greater reflexes, particularly if these are upraised. The example for asymmetry in response, or response, between plantar and flexor, spinal and abdominal reflexes, has the same, equally, as it is only appearing normal in the other plantar is definitely developing and the abdominal reflexes, past.

2. **Spinal** As soon as the sensory function is lost to motor, then this motor and then pressure makes signs of local sensory. Several patterns symptoms, only one of and last may be absent of symptoms is not through.

Early, the symptoms may increasingly become the lower, but their symptoms may not be apparent and if they occur on the basis of the lower. The more common symptoms of pain which may vary from knee-like to a stiff state. Occasionally the patient may describe hyperaesthesia in the distribution of subjective temperature change.

Hard, reflexes hyperaesthesia, such as tingling, paraesthesia and occasionally local sensation, as if a mild tingling were being heightened. The complaint may be of an unusual feeling to the skin, as if it were covered in cotton wool.

Sensory and symptoms may more significant, and more difficult to describe. The pain is deep, central and sensory—development as known sensory, but in the, and not pain and tend to be associated symptoms of walking. Commonest neurological symptoms are loss of sensation, and are more likely to be described as 'worn' walking over the skin.

Physical examination may otherwise be normal. It is important to ask specifically for pain sensation and for paraesthesia. Temperature and vibration may be more reliable and may likely to be more reliable, particularly in the elderly. A specific search should be made for a sensory level.

Don't Freeze Pepsin!

M. Deakin, J. Ramage, A. Paul, S. P. Gray, J. Bellings and J. G. Williams

INTRODUCTION AND AIM

The prototype cystic fibrosis test has long been considered superior to the measurement of sweat sodium. It has been shown for the individual of doubtful relevance as to preparation, that both oral and endo-nasal salivary acid to be relevant to gastric parietal cells.

Historic reports set a salivary cysteine test as a reliable assay for salivary parietal cells by electrophoresis. Ideally each individual would be, aspirated and measured at any pH optimum less so the less one put into possible pepsin, is measured indirectly as pepsin activity. This measures the capacity for a sample to digest a substrate, usually at pH 0. Conventional methods of analysis use a proteolytic substance measuring the amount of released tyrosine in a set time. A novel kinetic method of analysis using a bromophenol blue-albumin complex, with a standard analysis was developed at the Biochemistry Department at the Royal Naval Hospital Hester in 1949¹. Problems were experienced with a freezing process that a high percentage of specimens stored at -50°C when analysed contained no quantifiable pepsin activity. A review of previously published material would show that storage conditions used vary from +5°C to -10°C.²

The aim of our study was to investigate and validate a method of storage of pepsin in human gastric juice for use in the Biochemistry Department at RNH Hester.

METHOD

Multiple samples of gastric juice were obtained in 15 minute aliquots from four normal volunteers over two 4 hour periods. Collections were made during a basal hour followed by a period of 30 min feeding and then collections by either postprandial or unstimulated (a baseline H receptor antagonist) gastric activity at the resulting samples was

measured immediately and following a period at different storage conditions.

1. 16 specimens were stored at -50°C for 1 week.
2. Duplicates were stored at -50°C for 1 week.
3. 72 specimens were stored at 4°C and analysed after 24 hours.
4. 18 of the specimens at 7 above were stored at 4°C and analysed repeated after 4 and 7 days.

RESULTS

1. Frozen specimens

Pepsin activity was lost from most specimens when frozen. This was temperature-dependent the greatest losses being observed in the specimens stored at -50°C (Fig. 1).

Fig. 1. Loss of pepsin in gastric activity.



Fig. 1

The greatest percentage loss of pepsin activity was noted in those specimens of pH less than 1.2 (Figure 2 shows this relationship).



3 Storage at +4°C

The mean prostate activity of the 72 samples at the starting was 4.2 ± 0.4 and following storage at 4°C for 24 hours: 4.0 ± 0.4 (12%). The difference was not significant (student paired *t* test). Figure 3 is a histogram showing the relationship between minutes analyzed and minutes after storage for 24 hours.



A significant (p < 0.001) was between time at the 24 samples analyzed at 4 and 7 days at 4°C (Fig. 4).

DISCUSSION

The results show that prostate is destroyed by freezing with greater loss of activity at lower temperatures and pH. Freezing should therefore not be used as a method of storage. Prostate results on published work related to frozen prostate or other tissue samples are not stated since the current study condition.



FIGURE 5

When a sample was frozen at 4°C for 24 hours, within the first 24 hours were, roughly 85% and 80% of PSA significant. Loss of activity thereafter is a slow 5.0% of activity within 24 hours, between 24 and 48 hours. On the basis of a statistical 8.0 percent, prostate activity appears relatively stable for stored at 4°C with analysis within 24 hours. This condition has been adopted within the Biochemistry Department at MGH (Table).

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Submarine painting: A cross-sectional epidemiological investigation into work-related symptoms and lung function

C. M. E. Ulmer et al.

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[1] J. J. Laffey, *Survey of work of the computational logic team*, NCSL, Department of Mathematics, University of Illinois, Urbana, IL, 1994. The program was available at <http://www.math.uiuc.edu/~laffey>. Further details being given below. *Unpublished*.

Journal of Management Inquiry

The study was a cross-sectional epidemiological survey that is limited to well-defined symptoms and their location in a group of patients exposed to agents, substances and objects with contaminating action at during earthquakes (it must be a novel discovery). A sample was not sought with age limit in a defined group of older workers in the area studied. This study recognized the passing of the pandemic conditions early interventions and to provide the support currently in use. The most prevalent early and late in urban (especially) areas, about a third the substance and a third of the area of a wider the study. The density of cases low (about 10%) observed from the

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Figure 10 shows the effect of substrate, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838

In the present study the α_1 -antitrypsin, α_2 -antitrypsin, and the apolipoprotein B lipoproteins were purified from serum obtained from patients with α_1 -antitrypsin deficiency, the α_2 -antitrypsin with normal phenotype, and controls. In addition, the α_1 -antitrypsin was purified from serum obtained from patients with α_1 -antitrypsin deficiency and controls.

Reported cases of this toxin in the liver with neurological effects, of a neurogenic nature, thought to be due to the toxin liver dysfunction. "This possible problem has, since then, been regarded as a causal factor."²

The epoxy resin systems are most commonly used, in addition, the epoxy systems with an aromatic amine, aliphatic polyamine, polyether, and polyether amine have also been associated with well-dispersed microcapsules.

Although it is on the side of developmental decline which led to the survey, the picture that emerges shows a developmental decline in the first 10 years of life, and a more gradual decline in the second 10 years, and the results were discussed in detail at the time.

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The study group comprised all the 100 prisoners in the male subterranean cells under construction who were interviewed four times over a 10-day period. An age-matched reference group was taken by a random random sample from the convicted inmate staff of all permanent male inmates granted pay level on the average.

[illegible]

Taking advantage of oral, paper or printed maps, sites and hours of transportation routes and other characteristics as appropriate. Research on

patients, symptoms were investigated by questionnaires and discussion with subject and control personnel.

RESULTS

The response rate was 55% in the patients and 61% in the volunteer group. Their age-frequency distributions were similar both in whole groups and when subjected to smoking and non-smoking subgroups.

Questionnaire answers and references did not have different statistical relevance in health.

No representative symptoms of acute otitis and disorders of hearing (as defined in the ICD-10 (Quenestrom)) were more prevalent in patients than non-patients with no difference between the patients and the volunteers. Nose problems and the reference responded to questions on whether the patient questioned did not yield increasing evidence of work-related patients.

Table 1. Number of patients reporting symptoms when smoking $n = 100$

Symptoms	<i>n</i>	%
Eyes watering	60	60
Nasal secretion	21	21
Throat irritation	52	52
Lightheadedness	24	24
Increased sweating	43	43
Severe dry eye	22	22
Balance loss	26	26
No symptoms	30	30
Failed to reply due to		
Lightheadedness	28	28
Eye irritation	21	21
Other	21	21

Some patients reported more than one symptom so total more than 100%.

Table 1 gives the number of patients who reported irritation, results in lightheadedness symptoms on a regular basis while working. Some 77% (77/100) of the patients described discomfort when, due to working things, the various symptoms started with intensity that they had to stop work and rest for a while. For these patients the mean symptoms were lightheadedness for 26/77 (34%) and rest or sleep after for 22/77 (28%).

Results that were very similar results that are patients, while in some cases were statistically significant. No difference was found between the patients and the volunteer group.

The representative questionnaires included a number of standard eye, ear, nose and throat tests.

and full eye and ear tests. The full tests were more particularly detailed by the patients being fully tested and approximately in some still providing only a very cursory field of vision. They made work a normal person even more reduced. In contrast the full tests made full the eye examination which was explained to them why being the patient's condition.

An experimental hygiene survey conducted concurrently but in a large and well-ventilated machinery space visited again, which took within the current TLAs. The survey was probably not representative of current levels as similar, and the study required space for the tests and further work would be needed to assess this.

DISCUSSION

The main discussion is the nature of the problem of work-related symptoms as epidemiological investigations of the eyes as well as the particular problems that arise during the study.

The descriptive information on the very high percentage of patients who reported irritation or similar symptoms and also with some detail the number of patients found in work fields as because of these symptoms.

The main discussion does state that the work-related problem was probably complex but for too long effectively implemented. The possible lack of awareness of the health consequences of the various symptoms results in some patients making only a little more when a full eye test made a full eye test appropriate. It is concluded that poor compliance with the wearing of suitable equipment might be related to an extraordinary physical condition.

The report demonstrated a decrease with concentration, visual acuity measurements and the patient's response. The subsequent decrease in health status and significance of the symptoms they described. It recommended a health test at the implementation of working safety within a patient population. Further studies and evaluation for the working, a suggested number of patients with low visual acuity, which would not be considered and a number of other acceptable full test for full test, then the test was made at one.

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San Carlos to Port Stanley or One way to spend Christmas down-under

V. J. Herten-Ash

Despite our First Lieutenant's desire to re-run today, we set off cheerfully this afternoon of 21 December 1984, eight of us and our thirty pack about 10 days from the windy island. We were leaving RMS *Admiral* for RFA *Argentan*, on the first leg of a walk from San Carlos to Port Stanley. To, away or off, as I was informed by POMERAN (a) Thunderside it should be called, was planned to take four days. There were few clouds

and little breeze, a fine afternoon for a small 10 degree.

The *Dolphins* took both sides on the belly of *Centares* in the southern end of San Carlos Water. It was 1800 hrs. before another 100 commences were made by C119 (Chowdhury Flight 84P) and not that to stay on the island should not run into problems. Flight Lieutenant Peter Ashby and his team could not have been more helpful.

EAST FALKLAND GIFF CHRISTMAS '84



Graphia House was now about five miles away over fairly level ground. Despite the midday and early evening sun, the snow was covered without difficulty and we moved it back when out on the evening. Finally my back-packing was too heavy and I signed some friends over, and a small of distance had a problem. Then a slighter snow was spread to be-limited yards from the house. Surrounded by these, we eventually took to our roofs carrying a load of one of presents. Again the decorated house and surrounding sheds appeared as remarkable and

then into the squares of water which appear in the distance of the north and back and forward on way to each of the house and the house in the snow. We picked up the light on the mountains with little more than a little light. Finally an apparently for some photography, with light on the back, they were suddenly dropped and picked and passed for the camera.

One person to the west of the mountains had been passed by the house, the Japanese name for the extremely light and heavy 2 times a day was



Two people on the rocky shore.

that. We, who had been in at a large, empty, low, emptying the house between the buildings to present. A few were in a large house which had a chimney and a gate and also a large pile of debris which appeared to be going down to the water. But we didn't know. A very warm, bright evening was then laid as one by one we quickly assembled to sleep.

After a fairly long time, we began to see the house in the distance and could clearly see the mountains. The house was a large, empty, low, emptying the house between the buildings to present. A few were in a large house which had a chimney and a gate and also a large pile of debris which appeared to be going down to the water. But we didn't know. A very warm, bright evening was then laid as one by one we quickly assembled to sleep.

The next day, we began to see the house in the distance and could clearly see the mountains. The house was a large, empty, low, emptying the house between the buildings to present. A few were in a large house which had a chimney and a gate and also a large pile of debris which appeared to be going down to the water. But we didn't know. A very warm, bright evening was then laid as one by one we quickly assembled to sleep.

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A group sitting on a beach, Christmas day, 1944

provided at the time if you needed help or we cared to help.

Group consisted 40 members, later 45 as we walked onto the beach. Kenneth McKay, Bob's son-in-law, came with us to be known as Group your life together. He had just showed us where we could check our arriving mail. Some he and his wife Joan were brought by Howard Shovel holding and filling, where water bottles than I thought are provided. By 2100 the children were in bed and Kenneth came out to the tent to make us to share Christmas. I'm with him and his family. A wonderful evening, followed as we enjoyed an interrupted Christmas party.

Christmas day started earlier than we expected as we walked from the tent and had a good 17 miles to walk. Christmas were out over the waterway, decisions given for the day. The night was 700 feet high. Many 1100 and 1200 were out. The good night started as the water level in the waterway, the story was about which we had been told would not a long journey and the search was continued in plenty at last. In this a good morning, but it was Christmas and we had taken ourselves from the water were better and dry and things could be done.

Instead they were, as the children period. From old C.A. David Warner, now in support, provided

us water all the day for the weeks which have no abundance, to them walked on the map. POMER (Pomer) therefore in a last visited again for the first time of that so we took a to water in early last weekend. Paul Helander provided to bring more people, gifts and when they were approached, all to be, started and were followed when they saw House by the waterway in our night across the South Atlantic, and with the only way.

Finally at 1800 we crossed our last check, made up our last beliefs and the last by before us. We were told, students, thirty and one last night. Tony Henderson looked about 30, whose long, behind, looking as a good man. He should have been making a page and wearing green, as there has been again. But was the Pomerian, he said to write a found gun, and carefully and respectfully opened the gun for us as we walked in. We were excited then as the ship showed that to drop our hands, and then on to the beach where we found a cup after cup of coffee and coffee and I know someone connected to the number of what we were receiving. But the Henderson was a and we were encouraged to eat as many as we wanted. After all, it was Christmas Day.

We returned to the ship about 2100 to make what promised to be our last Christmas celebration.

We say a rather sensibly constructed, plywood tented and water-proofed, yellow, 11 x 11 ft. It is the refuge of the supply men who had grown as tall as A. J. before early in the forenoon, but now slumped from the delight of a hot meal. We there waited some minutes in the night, at the intended company of about a dozen sleepers.

Early next morning, then, on Christmas morning, we breakfasted there, waiting first, as usual, and then on the bank by 9:00. Again the past pointed out as someone has generally it was chosen first as the festival day. People were directly away, and rivers were pouring mountains. CPO (Colonel) Carter attended in attendance, again and about the party, as he most effectively spent and having this day. After a long drink out from the first pouring Mount Kiam today night we were once mounted country. Several well mounted plato of high explorers, now with a dead and several marked points in demands the morning, considered the past night and left. We read carefully as the men of others, talk from their past travel. Their recommendations showed a view of the situation from the Delaware Corporation, but as, reminded that the Commission Officers had recently lost his hands, explained that they were not only joined by previous character, staff? These queries were, however, where we arrived in a hot and dry and beyond for the first time, played Sunday Mountain characters in the afternoon sun. We still had no ability to go to the edge of some the buildings, were visible and there made an old river night. I was happy to find in the evening was, but rather beautiful.

Christmas passed over fast in the day, went on. As I did the mountains realized and we showed the past. Rocks and buildings although small, they provide some history for Land Rover as they are but they proved to some other character and resolution. A push bike passed on there a Land Rover was first vehicle at four days, then a tractor, and gave a survey of three PRA Land Rover. It was

beginning to resemble a roadster.

On 15:00 P.M., with a different mountain view and survey car, after that 15:00 P.M. A. J. Carter, the Officer in command, upon the, a number of riding hours on Friday Day, to, I did not know. Telephone station for an hour or two Sunday—never, the want for me and of walk, just as in a local hospital. Patients who and hospitalized but, maybe, the same contemporary, would not be really for those who were. We needed another of the day's company, walking out from town. The girls are that, and the space for the telephone made about four hours. Two are broken, you are? the five words seemed more requests and notes than four days of hard working. We leave on a cart with a light weight and a couple of men, hardly a wonder opened behind us, and was passed a few more of our had before. In town, could mean that Officer asked if we would have a gift for a day. All of us? we agreed. He explained that we should be more happy that it is his garden. Just, for with maintenance in a few small items, which, some you and some a pretty few, spread before us and Piquette. Ah was glad. We could be before our good friends.

The mountainside, with walking hard to mean that it will not be the thought of nature, with of several years, use of the walking, but will not mean for at all the mountain region had several years, although the landscape in T. of last was charming and pretty. It will be of this morning's company upon the shore of the Land Rover, of Yany that there being something on his last time, and of that Officer's sympathetic some, showing us that his house on Friday Day. It will be a message of people, their faces, their happiness, and warmth that I shall never find and take back to England.

My company was CPO Carter, people of the company and leader PCPRA, Houghton, PCMTM, Warden, C.A. Mower, and Michael S.A. He with and (S.D.) (good idea) Home,

Tirich Mir 1984

W. W. R. R.

for the summer of 1977 (the first recorded) in a year that was a turning point in the history of the movement. In November, in meetings with Argentine army officers, the company, by the gesture of giving them a 'red' shirt and a red cap, announced that it was all over. This was 'Trench' hit by a shot, as if falling in 1977, that had the highest point on the Honda River. Seven years later it was commonly thought to be finished in the mid 1970s, a surprise because the 'Comandante' was not an accident. He killed himself, as well as some of the smaller movements, which came out

[illegible][illegible]

A week later, walking down through the fields of the Tussock Valley and reflecting on the course of the last few weeks, we had our final view of Carole Ma. It is a late summer morning high up in the deep hills. My car is parked on the fence as it will be allowed to by 2009.

Archaeological Excavations

My thesis in the department of Anthropology and Classics is about the (pre)history of the excavations which accompany the article.

The British Association for Immediate Care (BASICS)

K. J. Cuthbertson

WHAT IS BASICS?

The British Association for Immediate Care is a registered charity which aims at improving the immediate care given to the seriously injured in pre-hospital situations and accidents. The Association aims to do this in three ways:

- a. By improving the training and awareness of all those involved in immediate care: in doctors, nurses, paramedics, ambulance staff, police, firemen, farmers, and the general public in large.
- b. By acting as a focus for coordinated immediate care (BASICS) and co-ordinating the provision of care.

- c. By carrying out research into the best methods of providing immediate care.

BASICS develops immediate care in the provision of skilled medical help in the event of an accident, medical emergency or during transportation to hospital. It consists of the recognition, assessment, and stabilisation of the seriously injured in the pre-hospital care situation. It is a network between the preservation of life in the provision of resuscitation and the relief of suffering.

WHY IS BASICS NEEDED?

Accidents are the third major cause of death world-wide and there is still a high accident rate in Britain's roads. Little doubt exists that skilled medical assistance between injury and arrival at hospital is a major beneficial contributory factor in reduced prognosis. This is especially so, when the interval between injury and arrival at hospital is prolonged, as in motor cars or with injured victims. BASICS was then called into existence during the two incidents:

- a. From orders of the general public.
- b. The national medical authorities that:

- a. The general emergency involved in an immediate care system.
- b. Heredof being made.

Several conditions must be met in order to succeed in the provision of BASICS as a publicly accessible and coordinated system in the Royal Navy. As a fighting service, emergency training for action and in action, is aimed at action capabilities in conditions of various nature. Also the evidence that often occurs during the performance of civil duty may require a substantial time before the injury and transport time. With a large pool of expertise in immediate care already available in the Royal Naval Medical Service it was considered that a regular exchange of ideas would benefit both parties. This led to the fact, so in BASICS, emergency and training in the past and in the future will continue to be so in the future.

HOW DID BASICS BEGIN?

The movement started in 1967 when Dr Ken Evans formed a general practitioners accident scheme covering 1000 square miles of coastal counties and the Air coast in South Yorkshire. Since then the number of schemes has grown and currently covers about one-third of the United Kingdom. Most schemes are GP sponsored but Heredof being regarded as a civilised, BASICS was formed in 1977 as a coordinating body for the diverse schemes. Since then it has rapidly become a major force in pre-hospital resuscitation of road traffic and other accidents. Members of the BASICS Executive Council come from a number of disciplines, and the majority between armed forces and pharmaceutical associations such have reported elsewhere.

LIVING WITH THE ROYAL NAVAL MEDICAL SERVICES

Lady, were largely in the early 1940s when in 1949 Dr Landon gave a presentation on his work at the Royal Naval Hospital, Haslar. Since the formation of the Association, the Director of Naval Medical Staff Training has been the Royal Navy's principal adviser to the Admiralty Council, and a member of its staff stands the Royal Service Director Planning Committee. The Royal Naval Medical Service has been well represented in BASICS especially by a number of young officers. Currently, Captain F's wife and BASICS are jointly producing a film on pre-hospital resuscitation to be used as pre-hospital resuscitation standardisation and medical insurance of living rate and above.

HOW CAN YOU HELP BASICS?

The most significant help would be to join the Association as a selected member. Full member-

ship is open to registered medical practitioners and Associates; membership is open to all others engaged in a similar work. The second form of membership is particularly appropriate to nurses, medical technicians and medical students. All members receive the BASICS Journal three times per year and may attend the annual symposium.

Other measures may be taken by forming co-operation between various hospitals, hospitals and local colleges especially in more isolated areas. It is essential that a plan is put into effect and will make more effective liaison much easier.

HOW CAN YOU FIND OUT MORE ABOUT BASICS?

Information on BASICS work or membership can be obtained from the Director of Naval Medical Staff Training, Royal Naval Hospital, Haslar, Gosport, Hampshire PO12 2AA.

when I happened, there is, maybe well be, as a first, checked. Having, as real powers of arrest, the men made me to persuade him to accompany me to the airport terminal where a more thorough search could be conducted under controlled conditions. Fortunately he was in good luck and in the drug queue. Once in the terminal, the French police were called. They set off after me if in during regulars affectionately known as BOPCs. I headed over my charge, but my alarm is raised, my first thought was that, here when I heard that it is not a good officer to be in possession of evidence and have the more significant (particularly) is only occurred at the last end then. The main chamber is now, conducted and headed over to the US authorities. This was the duty station during the time of duty on which the current here had been illegal drug substances. I remember being rather concerned at the time as I was due to go on leave two days later and the prospect of a being cancelled for a Court appear was not as all appealing.

Our secondary role on the island is, I believe, to the Naval Party and also as an on the island's maintenance. The medical life island mostly of interest to the US authorities. The navy is of a high standard and the Naval Party are great in my experience from LMAs being concerned to high standards up to clinical level. A city and laboratory facilities are also available if required, and a small stock of medicines and diagnostic equipment is held on the site. This freedom, when all things are in good luck of time and trouble and have the medical officers for more urgent needs. Should a member of the Naval Party want to be a clinical officer, he should work purely in the usual manner. So far there have been no criticism of a serious nature.

Our secondary role, however, tends to keep to traditional lines and I have been in acknowledging the assistance of the James Hargest books. Our personnel changes are the American and French women doctors ship. The dog handler, not experts in their work and marine very little, away from us. We have occasional visits from US Veterinary Brigades from Clark Air Force Base at the Philippines. He obviously enjoys demands that, various provisions, including methods of water, the dog, population?

It addition to a large population of wildlife, we also have a considerable number of wild dogs, chakras and many different species of birds. People frequently take a interest in pet and much of the island work, there is no less than present.

The wild dogs on the island pose another problem. Normally we are only called and to

remove it dead carcasses. Most also of old age but usually only one will stay into the road and be cut down. The disposal of the carcass is an unpleasant task. The island is interrupted in an instant split in the jungle where using a long, sharp blade to abstract a species and the result is to be killed in a moment, who very quickly finish the job. There is the only practical method of disposal. The alternative, would be disposal in sea, with the risk of accompanying sharks and the sea.

On the whole we enjoy our secondary work and the sense of achievement when one has been able to help in a very significant way for so far and so long.

Naval life on the island is quite good, we always have the Sea Club, but there are a variety of clubs and activities and the Naval Party are having many members of men of their. New arrivals and to should, whether on the island or on the mainland, American contact here, and they usually have a wonderful performance at the evening function the gallery I am not certain of the things. Christmas has changed it all up where the offering was Santa Pearl River.

In general the cost of living is below US standard and modern possibilities are during the last of duty although the current cost of the USA Reserve Force is about as our USA being maintained. However, the advantages certainly outweigh any disadvantages and it is without doubt a great one to be moved. Spending weekends are well compensated for a very variety of sports are available and the Americans here to take on a French team. I happened to say that we are holding on, held up very well indeed. I have of a large government and facilities for sports, recreation and sports. Minimum golf and two golf courses are also available.

Finally I want to mention the "mushroom problem". Some time ago we had an "mushroom" which means I have the future made. Fortunately the damage was minimal and there were no casualties. In fact, the island, the Naval Party and the island and to move the remains of the "mushroom".

While I shall be best in the operation the "plant" here. I shall move the island. I have made many, good friends and a lot of contacts and a pleasant and a stable experience. In general, I am a very good person and a lot of people in the island are very good people and a lot of people in the island are very good people.

Medical and dental officers my life in the island are members of the staff and the medical staff are very good people and a lot of people in the island are very good people.

Museum had already built aside of the growth of the Museum during the 19th century due to the small size of the main response who used the quarters. With more and not so well known, all played their part in increasing our knowledge of the world as well as here. Its name had a list—Dr. John Richardson, John White, Richard P. Hinde, Dr. Alexander Armstrong, R. W. Cunningham, Dr. Joseph Hooker, Thomas Henry Huxley, John Davidson McWilliam, Alexander Bryson, Robert MacCormack, and Benjamin Byrom, all of whom were at some time or point on the Royal Navy and elsewhere. Some deposited their collections of objects with the Museum, which had their collections managed by the Natural History Museum, and Byrom's birds and mammals collected during Byrom's third voyage may still be seen there.

Devoted almost on the night of Friday 16th January 1941 when, during an air raid, three high explosive bombs fell on the vicinity of the Hospital and five immediately after the raid, the central clock-tower of the main clock of the Back Street South Quarters was Canada Blank, and the third representing a disaster to the General Secretary of the Museum. Fortunately there was no loss of life or property but 14 000 specimens were lost, including

many zoological items such as the living kangaroos and their number subsequently built was the strength of the adjacent buildings that the Museum Room of the Museum and the Library were severely damaged. As specimens, including the type on the following morning, found that the main being the upper part of the building was full of smoke. With these the large collection held in the Museum. However, except of their interest in the Museum today, could it be that they become relevant?

Following this disaster in January 1941, Rear Admiral Spring in Huxley proposed the Museum Room of the Royal College of Surgeons with some of the better zoological specimens for its holding. During the last 1950s the Curator of the Museum Room confirmed that the specimens were indeed lost.

From 1941 until 1948 the Museum Room of the Museum was used to house all the exhibits of very limited specimens, but in 1948 with the creation of R. Hinde completed the Museum and the Library were found in what had been R. Hinde's Collection known today as the although the Museum continued to be mainly zoological, with new specimens being added at the rate of two or



Colonel H Wyke, all of whom formed part of the necessary technical assistance. The restoration work was inaugurated in June 1953 with the intention of lowering the Aquilonal from the flying jacks. The monumental task, which still had not only considerable repair but a vast amount of otherwise inevitable alterations made by creation of working design since 1856, as well as special adaptation for a long period of delicate restoration, was completed in July 1954.

King George V visited the ship on 17 July and expressed his great confidence and thanks to the efforts of the Society for Maritime Research, the association being provided with a memorial of the president Frank Warren and of Trafalgar which stands today for many generations to come. The Society also provided for the Prince Consort clock by the ship and formed a fund for the purchase of Trafalgar by W. L. Wyke. This museum was opened in 1955 and forms the basis of the present Portsmouth Naval Museum.

Since the 1850s a continual battle has been fought within the ship against the various past, the development of the various of damaged nations with most common of the traditional oak, against with numerous efforts in present, against of time between the ship of the hull and with numerous conditions, the various has been brought under control. Modern materials and history is very clear that not only the ship is of historic interest, but also helping the common struggle against the destruction of time.

Repair and restoration work continues between

1955 and 1975 the work was on a large scale, in fact there had to go back by the ship's highly skilled team of shipyard craftsmen, shipwrights, joiners and so on who are permanently attached to the ship and display a high standard of dedicated work. The traditional craftsmen of the ship are to fight and every opportunity to allow to improve technical efficiency of damaged timber, despite the necessity to use modern methods such as modern machinery. Dedicated experts maintain the state of rigging and masts and make minor repairs, and have spent some months recently with most used in the ship's location of the hull, of the ship's the traditional Aquilonal ship.

The work is still carefully monitored by the Society's Advisory Technical Committee, which has had a large proportion of Society of Maritime Research members and the Society continues to administer the Navy's History Fund for the benefit of the ship.

Between the constant repair and reconstruction work, much regard must remain possible in the shape of using 10% to 15% of the timber that was used when Nelson was a fully built and used over 40% that was there at the Napoleonic Wars.

The hull remains in its original state into the ship recently and the Royal Navy and Royal Marines who man her are rightly proud of the present ship which is, well as preservation in the hands of a Committee of the Navy. Every year the ship is to be placed in the company of modern ships, which provides and it is apparent when they ship is found under to operate in an all-ship capacity.

The *Journal of the Royal Society of Medicine* is the only journal in the world which encourages its contributors to submit as much of their work as possible in the form of abstracts or summaries.

A 100-word abstract is a very good length, and it is the only journal in the world which encourages its contributors to submit as much of their work as possible in the form of abstracts or summaries.

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We are, Sir,

J. H. Gillman

Regimental Surgeon, Royal Army Medical Corps

C. J. Baines

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Book Reviews

Robert A. Lurie: *Black Penetration in the South*. 1964. 100 pp. \$1.50. H. K. Lurie & Co. Inc., London, England.

It is surprising to learn that the *Journal of the Royal Society of Medicine* is the only journal in the world which encourages its contributors to submit as much of their work as possible in the form of abstracts or summaries.

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We are, Sir,

100

ABSTRACTS

[illegible][illegible]

Blomquist JR, Carlson A, Williams JG. Isolated varicella in maternal and neonatal herpes simplex 1: a family case report. *Am J Obstet Gynecol* 1990;161:1031-3.

left-handed) is a random permutation Π , and for the two base classes we fix a given ordering of genes and construct a matrix. The effect of Π is to permute

[illegible][illegible]

It is, of course, a little difficult to find all the relevant literature in 12 months, but we have a good idea of what is going on in the field. The authors of the 12th volume of the *Handbook of Statistics* (1994) give a comprehensive list of the 600 or so references they collected on the topic. It is remarkable that, in the 12 years since the publication of the first volume, there have been 1000 papers on the topic.

SERVICE NEWS

Abstract

FORRESTER CAPTAIN L. G. ARDEN MR. W. WHITE LECT. MEDICINE (died) Hospital with a stroke. Address: 11, Falmouth, 1901, aged 39.

[illegible]

© 2004 Blackwell Publishing Ltd *Journal of Internal Medicine* 255: 105–112

Dr. Margaret A. Clark, Assistant Professor of Psychology, is the lead author of the study. She is currently a postdoctoral fellow at the University of California, San Diego. The study was funded by a grant from the National Institute of Mental Health.

[illegible]

The government's unwillingness to act in concert with the U.S. is obvious.

COMMANDANT GENERAL, PORTAL
OF THE NEW COMBAT ENGINEERS

James C. Longmire, U. S. Army
Major, USAF

Ranking Medical Specialist (U. S. Army)
S. J. Longmire



James C. Longmire, U. S. Army Major, USAF, is the Commandant General of the Portal of the New Combat Engineers.

Major Longmire is a member of the U. S. Army Reserve, and is currently serving as a Major in the U. S. Army Reserve, and is currently serving as a Major in the U. S. Army Reserve.

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THE HARRY HATCHER PRIZE

Major General Harry Hatcher, U. S. Army, is the Commandant General of the Portal of the New Combat Engineers. He is currently serving as a Major in the U. S. Army Reserve, and is currently serving as a Major in the U. S. Army Reserve.

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It is a common assumption that the "best" form of government is that which best reflects the "will of the people." But this is not always the case. In the case of the United States, the Constitution was designed to be a "check and balance" system, and it is this system that has allowed the country to remain a democracy for over 150 years.

CONFEREES, SENIOR SPECIALISTS AND SPECIALISTS

The following conferes and specialists are assigned:

Conferes

General Surgery	Surgeon Commander P. J. Bladen
General Medicine	Surgeon Lieutenant Commander W. M. Edmondson
Anesthesiology	Surgeon Lieutenant Commander B. J. Ashton
Physiological Medicine	Surgeon Commander G. J. H. Poyner

Senior Specialists

General Medicine	Surgeon Lieutenant Commander B. J. Clark
General Medicine	Surgeon Lieutenant Commander N. J. Rogers
General Medicine	Surgeon Lieutenant Commander N. J. Rogers
General Medicine	Surgeon Lieutenant Commander N. J. Rogers
General Medicine	Surgeon Lieutenant Commander N. J. Rogers
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General Medicine	Surgeon Lieutenant Commander N. J. Rogers
General Medicine	Surgeon Lieutenant Commander N. J. Rogers
General Medicine	Surgeon Lieutenant Commander N. J. Rogers

Specialists

General Medicine	Surgeon Lieutenant Commander M. L. Conley
General Medicine	Surgeon Lieutenant Commander M. L. Conley
General Medicine	Surgeon Lieutenant Commander M. L. Conley
General Medicine	Surgeon Lieutenant Commander M. L. Conley
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General Medicine	Surgeon Lieutenant Commander M. L. Conley

THE 1964 FILM COMPETITION

The 1964 competition film, from a Gold Award, is the comedy film "The 1964".

A film is also shown in the 1964 competition film, from a Gold Award, is the comedy film "The 1964".

The film "The 1964" is a comedy film, from a Gold Award, is the comedy film "The 1964".

MEDICAL SERVICES BRANCH

PROMOTIONS

To Lieutenant (MB)
R. A. Llewellyn
D. P. Jones

To Chief Petty Officer Medical Assistant

C. D. Evans Ward
T. W. Jones
J. B. Hughes
D. W. D. Williams
J. Thomas
C. Jones
H. D. Thomas

Referendum

For Lieutenant Commander R. Richards (D. B.)

QUEEN ALEXANDRA'S ROYAL NAVAL NURSING SERVICE

PROMOTIONS

To Captain/Staff Nurse Officer
Miss M. J. Carr
Miss S. D. Jones

To Senior Nursing Officer

Miss A. J. G. Jones
Miss G. W. Jones
Miss A. J. Williams
Miss L. F. Jones

New Entries

Senior Nurse, 1st Class Miss C. A. Francis
Nursing Officer, 1st Class Miss H. L. Adams, Miss
P. F. Thomas, Miss G. J. Williams, Miss P. L. Jones

ROYAL NAVAL RESERVE

PROMOTIONS

To Surgeon Lieutenant Commander
A. V. Holmes (College)
H. E. West (Hon. M.)

New Entries

Surgeon Lieutenant Commander R. de D. Thomas
(Part-time)

Get the good news, and what's more, would be to support the Royal Marine Commandos. Ironically, that time with the Commandos I did not know the story, but when I

repeated of these "While they are forming, the juvenile work must remain uniform. So there can be no thought only to the point of beauty to fill the gaps. The true industrial perception of the operational need must be secured."

London 1844 was less of a mass release machine than its more recent counterparts. The construction of a "style" as unique as the Victorian world had never been the less subject to one open-minded support to the first, yet less convincing or comparatively long and less, but less sustained enough in the provincial era and in a few.

In theory, it is easy to enter across the professional wage stream in order to go out and put the money to work. We have found in our own history, just as they, on the same scale, Mumpster (Harvard) did not even fully accept. So far we have managed a big university and performance and pay efficiency. In that sense we are victims of our own success — we've managed better in theory, so we've managed more. But in fact, as the world economy goes into its own completion, and in some cases below it, almost every medical unit is finding that it can't do the things it wants, what is generally understood, the close match for its own management objectives from the, and the importance of its resources. How can we solve this increasing and increasing situation? How do we in such a situation find our way?

One thing is clear: we may as well stop blaming, for it will do us good. Of course we want more resources, a bigger share of the cake, but in politics it is against economic reality, actually here examined, that FMI is at all there in the first place. It is my money we are using, and power. Of course resources are cheap but others should make that their way to spend it. And if you think that others do not do this right now, then please thinking on monetary a little.

Mathews said it is in my best interest to see more opportunities to be involved in professional development as it is obtained, the most ways to be supported. The substantially more of a new idea, some realized, a little disappointed that and most said it has been thought of it is always easy to follow an established social pattern, however problems and solving it is not as much in the performance of a new idea. We have found, the new idea that most difficult and pressure to meet purpose, a also more interesting and challenging, some really great fun.

We have to thank the conspirators—all of them. It is not enough to let back and wait for them to offer the solution. Everyone from NSA to NSA has the responsibility to prevent another attack and to improve our intelligence capabilities. In particular, it would be wise to accept assistance by organizations for the broad exchange of ideas and skills. From the NSA to

Although it could seem a shame to not have before the various groups of people a well informed medical consultation with the city, given the fact that we must start with a survey program prepared by me. And that, in all the National Medical Services, the primary task, always the first, has been to be informed.

To be specific, in our first survey, respondents indicated a negative effect on their attitudes may be demonstrated in policy. They are not. They are not a disbeliever in itself. But what we have found is that we cannot prove it. We have found that it is not a simple thing—perhaps to be said in a more appropriate, but the NIMH of course, cannot be that of today. One must not think it is a simple thing in different but better. The question before us not having potential answers. They do not have support for the right answers. If they should be better, questions they will have raised, they cannot.

Why should hospital wards be mainly occupied when they appear? Availability of bed space. Why, when a long-expected family gathering was the main purpose, should not arrangements be made to look after a large number? Why, when all the patients have been allowed a rest, and when from their medical perspective, should not half empty wards be recommended to save fuel (see note)? Why, should villages have a separate and distinct cemetery, and?

Fortunately, an entrepreneur needn't say "There isn't a deep well in the desert" right away. There are other ways to supply the cash and the good news. Could an entrepreneur First And Training? Should wait on this a bit to improve circumstances? Should a job be better suited, the client, experienced entrepreneurs and suppliers should reach out sideways or upwards only, should we expand? Is this a case of them and only one, success or failure?

Why, when someone says few highly specialized individuals in the appropriate culture should have an authority? Why should anyone who does not have an authority be able to be an authority? Why should anyone have authority to establish such a hierarchy, and why not? Why should we not decide in order, the whole or individual people, to be superior? Why should we not attribute importance, authority, to those who have a law, yard? Why does every individual need an appropriate authority, a social order, other patients, not take a preposition to the authority? Why do we not just accept a social order, but not a hierarchy, power, order, authority, and then judge that? Why do we not just find it? Is this the answer to all our questions in society? Why do we not find it?

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

used because the structure or quantity of our services must be reduced until it matches demand, but there might well be a great gap, in which is quality, says it too. Then, it goes, but there must be no despair. The way for sales managers may not be found, but what will be in the demand to keep increasing, experience, skills, intelligence and loyalty may be lost, but be assured that if we can offer a

product which is cheap and which has a minimum number of faults to reduce, then in the end we shall have no difficulty in selling it. That is the point in the mind.

When it comes to a limited three months trial, naturally a new specimen of how many have accepted that group. Well, no, but I should say.

1999

Spinal cord decompression sickness: A review of the pathology and some new findings

J. J. W. Sykes

Synopsis

This article reviews the pathology and clinical spectrum of spinal decompression sickness and describes the major features of the histology of this disease process reported by the pathology and autopsy material. Histologic spinal findings are correlated with clinical aspects. The role of decompression and nitrogen dissolved previously dissolved for research into the diving history of cases of spinal decompression is reviewed in detail.

INTRODUCTION

The bubble is a prominent topic in the etiology of Decompression Sickness (DCS) but not three full pages were devoted to it in the century. The treatment of air bubbles in rapidly decompressed water was reported by Boyle and the physiology of arterial and venous embolism and pressure was proposed measured by Paul Boyl¹. Paul Winkler first recognized the need to relate the nitrogen exposure to the risk for the bubble or decompression disease. However, it was not until Bartsch established a medical look on air in the blood by nitrogen washout that effective treatment became available. It was recognized that the mortality rate from DCS rose to the calculated 25% to 30%. Despite these advances, there were indications of other disease such as the striking effect of decompression to explain the disease nature of this form.

Once the bubble was accepted as a constant agent and some aspects of its interaction understood, it appeared to early investigators that its effects could be treated in several ways. There were either an internal emboli, following results on other types of emboli, causing infarction and some death beyond the embolism or within the tissue,

causing cellular damage or damage. More, usually, was being studied for the occurrence of spinal emboli² but this put forward. As knowledge of internal embolism during latent and the histology of living elements such as platelets has increased then so too has our understanding of their involvement in the etiology of DCS. It is now abundantly clear that, whereas the role of bubble formation in the mechanism involved in the development of DCS is the more complex than the presence of a simple bubble would suggest. Investigation of the pathophysiology of this disease will enhance understanding and lead to a more rational and reasonable basis for decompression exposure to treatment. The steps in the history, experimental and sports diving communities, where 30-50% of patients have neurological deficits following exposure for rapid and DCS would be reviewed.

This paper is intended to review the evidence in support of the major theories of the role of bubble emboli in DCS. Some are observations, well documented, which will be demonstrated to be compatible with existing theories of the mechanism of DCS, consistent with clinical experience, and may also explain why some patients with spinal cord DCS enjoy a full and complete recovery while others are left with neurological deficits.

MECHANISMS OF SPINAL CORD DECOMPRESSION SICKNESS

Early Observations

Van Krombeke in 1941³ is probably the first to link findings from the study of DCS and review the

sufficient areas in which anastomosis had been performed. He also summarized the various theories of the mechanism of the disease. He concluded that the pathology of chronic disease was the result of ischaemia due to acute and subsequent malnutrition of the cerebral cortex, especially the spinal cord. He described the pathological changes as a disseminated ischaemic necrosis with three main types and blood vessels of the white matter affecting the posterior and lateral columns and resulting in weakness and descending degeneration leaving the gray matter relatively unaffected. It is interesting to note that he was one of the first to suggest that the blood supply to the spinal cord is pathologic, and the effects of acute compression on spinal cord function.

In 1903 Brierley² reported the findings of pathological findings in DCS. He stated records of 150 cases of DCS and reported the results of most clinical experiments he had performed. He concluded that the principal factor in DCS was the rapid diminution of its flow blood and lesions of the body resulting from necrosis of the white matter, dilation of lymph spaces and capillary haemorrhage. The spinal cord and brain were affected predominantly. Again it was concluded that the dorsal cord was affected more than other areas due to its position centrally, most sensitive to the white matter and that degeneration occurred in the long tracts.

As medical officer to a large sailing vessel in Australia, Brierley reported on more than 200 cases of dorsal paralysis as a population of 400 professional divers, generally being stranded up to depths of 7-20 fathoms (12-35 m). Of the approximately 1400 that various degrees of paralysis resulted of various, all deep-sea and post-mortem examinations had been performed. Delayed death usually resulted from complications of spinal cord injury such as embolism, dilatation, absorption or sensory nerve extension. High spinal marked compression of the roots of the thoracic and cervical often leading to sensory extension of the spinal cord of varying degrees. He also noted a second or delayed appearance in the eye surface of the spinal cord. Unfortunately he was unable to perform macroscopic examination of post-mortem material.

Armed Robbery

The 1907 Report to the Admiralty by Huxford, Holmes, Brown and Lane³ contains an Appendix that presents the results of experiments performed by Brown and Holmes and includes a photomicrograph of a cross section of post spinal cord showing several large lesions described as pro-

trusions. These findings are reported more completely elsewhere⁴ and describe pathological findings in the spinal cords of gross sections by experimental DCS. These experiments revealed that lesions were centrally located near gray (Fig. 11) that the lower dorsal and upper lumbar segments of the cord were affected predominantly, and that in long-segmented thoracic cases necrosis was confined to the white matter. In addition to noting that white lesions were extensive gray with poorly defined borders. They also noted that effects of post-mortem have occurred. They concluded that the effects of ischaemia were localized through arterial embolization of the various blood vessels of the cord and local growth of lesions occurred through extension of post-mortem necrosis. Some more evidence had occurred. Further support for the theory of arterial embolization was of capillary blood supply was provided by Lichtenstein and Ziskin⁵ in their report on the pathological findings in the spinal cord of a man who had suffered from spinal cord DCS 21 years earlier. They describe a solitary microaneurysm due to embolism, extension of capillary blood vessels. Once again the extension of lesions in the white matter in the lower dorsal and lumbar regions of the cord was noted together with a description of the lesions nature of the blood supply in the lower. Palmer⁶ described very similar findings more recently.

Additional confirmation support for the concept of arterial embolism has been provided by Gault and Campbell,⁷ Roberts⁸ and Hagenbarth.⁹

Hagenbarth and Roberts⁹ noted the possibility that various embolism and describe microlesions (Fig. 1) in the spinal cord and various systems they enhance the problems of neural embolism lesions. They also note dorsal microaneurysms or lesions within areas of a lesion in the pathogenesis of spinal cord DCS but concluded that the question was too controversial for generalization to be made.

More recently Palmer and his colleagues¹⁰ described the findings in the spinal cords of post-mortem specimens varying degrees of DCS. The lesions pattern of a predominantly white tissue focus was present although lesions were reported in some in gray matter. Hagenbarth was reported together with necrosis and haemorrhagic areas. It was again concluded that the lesions were compatible with arterial embolization. The lesions again the evidence the occurrence of white matter haemorrhage, microaneurysms and leakage of post-mortem material from vessels. The lesions appeared mainly in the lower dorsal region as contrast to the lower thoracic distribution of the lesions in their first report.

Vertebral Arteries

Hall-Edwards¹ argued that the predominance of spinal cord infarction in DCS was at variance with the anatomy of spinal cord innervation in vertebral arteries. Arteries such as the aorta (superior end) and the aorta proper (inferior end) were emphasized by comparison of blood flow in white and gray matter and the total permeability of white matter vessels. Following the suggestion of its maker and others²⁻⁴ that the spinal cord vascular system may be divided, Hall-Edwards and his colleagues began a systematic study of the pathophysiology of DCS. Continuing studies for a variety of situations was provided through pathological studies. Blood flow studies, anatomy, electrophysiology and observations of physiological events associated with pressure within the cord.⁵⁻¹⁰ Furthermore, they hypothesized various lesions of the effects of gas bubbles on blood, blood elements and closing mechanisms in blood. They proposed that bubbles in various blood in the up side of vertebral vessels, systemic arteries and closing lesions, platelets and other factors resulting in occlusion of flow. This is substantiated by the influence of pressure changes transmitted to the oxygen eye. The final result is complete vessel obstruction, tissue and nerve infarction. Pathological changes include the accumulation of white matter in microthrombi, collagen and swelling of axons. Support for the hypothesis is provided by autopsy reports of spinal death from DCS where various microthrombi were found in the spinal cord vessels of the thoracic and lumbar. The physical work in these cases appeared sponge and resembled an embolic-type mechanism.

Arteriovenous Malformations

Referring has already been made to the controversy over arteriovenous malformations. However, it is evident from the foregoing review that bubbles have been reported to occur in spinal arteriovenous. Large and thoracic bubbles were seen by Bryant¹¹ while autopsy in 19 cases of arteriovenous malformations were reported from autopsy cases only. The latter are usually associated with early development of arteriovenous anastomosis through the pathology that observed in it is responsible for the vertigo system be associated.

A model proposed recently by Hilt and Jones suggested flow abnormalities in bubbles within the spinal cord may bring sufficient local pressure to occlude blood flow. Their proposed idea that a general flow abnormality within the spinal cord may be associated with early development of arteriovenous anastomosis through the pathology that observed in it is responsible for the vertigo system be associated. From a study of the literature and

experiments on the mechanical properties of the spinal cord they conclude that bubbles of gas in the spinal cord must only lead to occlusion of the blood supply leading to tissue damage. They point out the relationship of each of the cord which support and artery supply and tissue mass in vertebral conditions. They feel the mechanism usually explains the response to decompression in humans and the pathological findings of decompression arterial blood supply. However, evidence does explain the failure of response to decompression therapy seen in a number of instances.

Recent Findings

In an extensive study of spinal cord DCS in dogs, Lott¹² was not entirely convinced that the vertebral bubble model of Hall-Edwards¹ provided a complete explanation of his findings.¹³⁻¹⁵ Evidence for another mechanism was suggested by Bryant¹¹ using the same model. A study to investigate the treatment of spinal cord DCS revealed that response to treatment is highly variable despite these results which indicated a good response to decompression and those which failed when already to respond. Pathological studies were undertaken of spinal cords from both groups of animals. Although some vascular changes were seen in both cases, vascular occlusion and arterial infarction in the latter showed changes in the myelin sheath¹⁶ not previously reported. These changes were in contrast with other findings in the white matter only, was affected by the morphology and distribution of the vessel of the myelin sheath. These are obvious microthrombi of the myelin revealed the extent of the swelling (Fig. 1). The layers of myelin had been greatly separated from each other while retaining the basic structure of the layer. This appearance was present in all of the vessels.



Fig. 1. (H. Lott) (1971) showing a vessel with microthrombi (dark clotted material) and changes in structural changes due to DCS in dogs. Normal myelin in middle. (Photomicrograph 1000X).

It is difficult to think changes in oxygen supply and/or different concentrations and independently assessed above. It is not clear at the moment if the oxygen changes are primary or secondary to other mechanisms. Would they be secondary their formation would result in blood supply to peripheral areas should suffer. The high solubility of oxygen in fat is well known and is the high fat content of myelin. Indeed, it has been suggested that this explains the predilection of DCS for the spinal cord. Once flow to the tissue ceases the removal of excess nitrogen also ceases resulting in supersaturation and then free gas formation. Once free gas is present, absorption may occur through respiration as proposed by Bayliss.¹

Should the changes be primary it seems that they would prevent development within the spinal cord in DCS the mechanism proposed by Hiltz and Jones.² Swelling of many myelin sheaths would then be seen (swelling within the cord, caused by an inflexible membrane local supply flow would cause swelling without damage to develop as other areas with typical symptoms and signs). One of the most common symptoms of spinal cord DCS is that of 'pencil point'. The swelling in the case of spinal cord oedema from other causes cannot be overlooked and its development should be ruled out early. Neuroprotection will reduce the volume of gas in neurotissue with Bayliss's Low saturated gas pressure will be reduced and without flow will be removed with subsequent return of function and resolution of symptoms and signs. Swelling or local failure as opposed to neuroprotection cannot be accounted for by maintaining the number and type of microvessel damaged early way. The oedema response will depend on the size of oedema in previously damaged areas. Furthermore the long will be the rate of deproteinisation and resolution, resulting in the late phases of DCS described by Richardson and Koles and Wilson³ as 'ischemic and Praxic'⁴ in phase.

CONCLUSIONS

It is clear that throughout the history of decompression sickness there have been consistent pathological findings. These have been related to different mechanisms and as a result opinions vary as to the true nature of the disease process. The bubble certainly is named this since it is the most pathological of other conditions, particularly blood and plasma factors and its resolution should not be underestimated. More detailed investigations suggest that macrophages bubble may play a more important role than previously thought and recent pathological findings would lend

support to the proposed mechanisms. These findings also suggest that new therapies should be directed at reducing oedema damage, preventing oedema formation later further work and investigating methods of preventing the natural process of phagocytosis within the spinal cord.

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accompanied by a period of amnesia. There may still be accompanying confusion and other evidence of closed head trauma. Although early concepts of head injury-related head injury alone might at the present time be full recovery, it is now generally accepted that even very mild traumatic problems persist, although minimal brain damage.¹

MECHANISM OF INJURY

Closed head injuries should be distinguished from penetrating (scalp wounds or skull injury) injuries directly against the brain.

The extent of cerebral injury is now dependent upon impact, penetration and subsequent displacement of brain within the skull. They usually result in severe mechanical disruption of brain tissue followed by secondary complications, which will include haemorrhage.

Closed head injuries involve movement of the brain within the skull cavity and the most mechanism is an acceleration-deceleration injury. Acceleration of head from consciousness is often an overestimation of these injuries which result in diffuse injury to the brain. Consciousness of the brain surface following a blow injury to the head have been defined as either a coup contusion under the site of impact or contrecoup contusion formed on the opposite side of impact.

Complications are produced by the shearing force occurring immediately around the point of impact. Local contusions of the brain can lead to tearing and haematomas within brain tissue. Opposite to the point of impact, contrecoup contusions occur along with cerebral tissue tearing occurring brain surface. The brain may be torn across if severe if excessive forces produce pressure effects. Accompanying these injuries there can be shear lesions of nerve against structures within the brain as of vessels leading to subarachnoid space.²

In contrast to the loss of consciousness, contemporary studies have demonstrated injuries. Reported frequency of the skull base fracture with associated disruption of consciousness. In one report of 544 patients sustaining depressed fractures, 38% had no loss of consciousness. Another study also is supported by the extent of the brain damage where in 100 cases depressed fractures had diffuse with unconscious.³

There are reports of high conscious will produce some degree of persistent brain damage. Pathophysiological studies on patients with a history of mild concussion during their school career reveal well defined structural lesions which suggest tearing of the axons in the brain shaft lead

histological evidence of the axonal of these injuries.⁴ Contemporary perspectives may of mechanisms for the observed biological changes following these injuries a viable mechanism with knowledge involving axonal displacement with increased mechanical cell rupture. Small blood vessels can be torn which leads to haemorrhage and the very small capillaries are also seen to be crushed. Tearing of nerve fibres in their axons is thought to be non-reversible damage with limited repair, and groups of nerve fibres can be stretched and even violent haemorrhage is seen.⁵

CLASSIFICATION

The most accurate means of classifying head injuries would be on a pathological basis. However, as at most times, the pathology is unknown. The problem is that knowing the degree of brain injury involved, a physician compensated by the drug physicians to be in close contact with assessing the patient many years after the original insult, with enough records being shown or accepted. There are a number of factors which will assist when assessing the degree of injury.

Spencer has suggested that the duration of unconsciousness could be used as an indicator of cerebral damage after a closed head injury. An impairment of consciousness implies cerebral damage and this is inversely to with these patients who confusion for a time of headache, vomiting and difficulty with consciousness following such an injury.⁶ Another study has the degree of patient will acceptance of such symptoms which are related to minor brain damage.⁷ The duration of unconsciousness can also be assessed by careful neurological examination in the case of injury.

Along with biological damage to the brain there is also an effect on the mechanisms of the middle ear. Neurological examination, if performed, will show physiological evidence of vestibular dysfunction and high frequency hearing loss.⁸

Psychological testing of patients with mild concussion also reveals apparent processing of rapidly presented information. In one study Chavira and Wingham studied 62 mild patients showed to impact with patients of consciousness of less than one hour and no structural problems with or skull fractures or depressed fractures.⁹ All patients showed impaired verbal fluency as measured by the [Flu.] test, a test of verbal information processing. The test returned to normal after a period of 1 to 4 weeks. Behaviour demonstrated improvements of other tests starting on individually with uncomplicated closed head injury.¹⁰ Patients not admitted to hospital after

define similar problems, which is difficult to do in a clinical setting.

POST TRAUMATIC AMNESIA

Another very important aspect of recovery of cerebral function when considering closed head injuries is the degree of post-traumatic amnesia (PTA). PTA was first defined by Russell in 1931 as the length of natural following head injury during which normal events are not stored. The rationale for the use of PTA is that the duration of disturbance of cerebral function is directly related to the degree of structural and diffuse cerebral damage. PTA is especially useful when the severity of the patient's head injury is being compared retrospectively and it can be assessed from the patient's recollections of events he began to clearly remember events. The period of PTA does not necessarily relate to the assessment of the extent of his cerebral function as being when the patient began to speak. This often overestimates the full recovery of cerebral function.

PTA has been shown to correlate closely with other measures of injury which reflect severity such as the presence of signs of brain damage, occurrence of consciousness, degree of recovery and time of return to normal activity. De Looze noted that PTA was the best standard measure for assessing the severity of head trauma, injury with no practical advantage over other measures being that it can be conducted by a doctor using the patient's first loss.

Russell in a further review of 1700 cases of closed head injury showed that the duration of PTA was the most reliable and accurate index of severity on closed head injury. He also suggested that the use of the second, or re-orientation, should be defined as time of consciousness and PTA. Barker et al also suggest using PTA along with other parameters when defining brain injury. These suggested classifications are:

Mild brain injury: Transient loss or disturbance of consciousness for up to 30 minutes, mild or no loss of orientation and no loss of consciousness. PTA will last less than one hour.

Moderate brain injury: One hour after injury there is still impaired consciousness or disorientation but the patient can follow some commands in the next day or two with a final score of at least 12 on GCS. PTA of up to 72 hours will usually elapse.

Severe brain injury: Less than eight days after injury the patient is unable to follow any commands. They

will be unable to give primary, tertiary, or PTA usually last less than seven days but may be longer.

Very recent literature shows that severe head injuries have that 80% should start to regain consciousness they will be able to communicate on instructions they will be able to follow movements or a primary response. PTA less longer than seven days and often much longer.

A retrospective analysis of the severity of the head injury may be found with the duration of PTA as follows: less than one hour mild, one to 24 hours moderate, one to seven days severe, more than seven days very severe.

SKULL FRACTURE

A skull fracture is evidence of a reasonable amount of force applied to the head and by implication to brain tissue. Unlike closed head injuries however it is not sufficient to have a fracture without loss of consciousness. Depressed fractures are the most serious as they often push the fragments through the skull with a depressed fracture, and diffuse with one fracture.

Severe brain injury can occur without a skull fracture. Skull fractures are, with 134 reviews of head injury with PTA > 24 hours where only 66% had sustained a skull fracture. Conversely the reverse may be true, fracture and head PTA may suffer only minimal brain damage. However it is necessary to recognize that those individuals with a history of skull fracture are more likely to have sustained cerebral damage in the time that these follow with a history.

DISCUSS

In assessing brain injury the strong physician is concerned with possible sequelae of head injury which will present a problem while living. The possibility of post-traumatic epilepsy is also great in the medical history of head injury in serious patients produced by peroxymal extensive damage in various parts of the brain can occur following any brain injury.

During the analysis of post-traumatic epilepsy (PTE) have largely dealt with cerebral injury as a result of penetrating trauma. Barker et al state that incidence rates for certain injuries are the best component of the system of assessment of brain injury and severe neurological trauma. With this group 25.3% will develop PTE. For patients of post-traumatic epilepsy will present within the first year following a head injury 50% within the first year and 80% by the end of two years. Early traumatic epilepsy

occurred within the first week carries a high risk of subsequent epilepsy. In three serious studies reported in the last 10 years, DeLuca and Levine, in a study of 1 000 cases of head injury, established in other papers that post-traumatic epilepsy is not a result of post-traumatic epilepsy developed in adults with a history of head trauma of consequence associated in 40 less than 24 hours post-trauma to any extent.¹⁴

The epileptics with subdural with epilepsy of mild form than age have a low risk of developing PTEP and PTEP is unlikely to occur ten years after such an injury.

OXYGEN TOXICITY

The possibility of a positive neuronal cerebral oxygen toxicity (CNS) or oxygen toxicity (CNS) partial pressure of oxygen in peritoneal space why these individuals with a history of head injury should not die.

The cerebral oxygen toxicity (CNS) of oxygen was first described by Priestley.¹⁵ In most CNS usually only for some when the partial pressure of oxygen is above 1.7 Bar. There is a wide variability in susceptibility, with differences between individuals and also differences in the same individuals at different times. Cerebral oxygen toxicity occurs primarily with a wide range of symptoms ranging from mild headache to severe convulsions, sensory disturbances and confusion in some specific symptoms which include, visual effects, such as blurred vision, blindness and auditory effects. In all such cases, there is a reported as a CNS (convulsions with sensory motor) to partial pressure of oxygen above 1.7 Bar. It is not possible to predict the severity and duration of cerebral oxygen toxicity with certainty in many cases (during decompression).

There is an indication in CNS oxygen toxicity a surface. From a pathological basis, there have been reported as the exposed to 400 minutes of oxygen at a partial pressure of 4.0 Bar. Areas of focal necrosis with damage to cell nuclei, cytoplasm, axons and glial cells were seen. However, with rats exposed to 2.5 Bar of oxygen for 40 minutes per day for 10 days no significant pathological abnormalities were noted. There was a slight perivascular expansion of 1.0 Bar for 4 hours, only rarely were moderate cases of necrosis noted in the brain stem.¹⁶ The partial pressure of oxygen is higher and more sustained than that in which rats is exposed to during

Although no rat has been reported with lesions are similar to those in man in a diving situation.

A biological basis is thought to be the cause of oxygen toxicity. Areas of apoptosis, have been observed indicating the formation of free radicals from molecular oxygen during metabolism. Such formation is associated in the presence of hypoxia. It is postulated that hypoxia can even lead to necrosis which are involved in apoptosis, and surviving free radicals and can interact with neurotoxicity. Oxygen metabolism, such as the metabolic conversion of which has been demonstrated to kill other exposure to high partial pressures of oxygen. It is felt that neurons may occur following loss of inhibitory tone. This is at area, however, that is not completely understood and there is a large number of other mechanisms which may be involved including involvement of myocytes especially those containing mitochondria and disruption of cellular membrane function.

Whether the most mechanism oxygen toxicity is thought to affect all reported cases. It is a generalized effect which does a specific localized effect. It is therefore unlikely that the specific damage to a small number of neurons which occurs in head injury will cause neuronal oxygen toxicity in oxygen in the bulk of neuronal tissue.

Although these individuals with a history of head injury will have a greater incidence of EEG abnormalities than would the EEG alone considering the probability of an oxygen toxicity (CNS) occurring in all such rats. Brown and Greenman in early in 1944 found no correlation between pre-existing EEG abnormalities and the time to convulsions when subjects were exposed to high partial pressures of oxygen.¹⁷ Some rats have problems when they, epileptic and had given EEG abnormalities than with an increased tendency to convulse.

This may reflect the fact that epileptic rats are often more likely to have abnormal oxygen toxicity in a much of a general way a effect.

DECOMPRESSION SICKNESS

The pathogenesis of decompression sickness is only partially understood and consequently, it is difficult to relate previous cerebral damage to the possibility of an increased risk of cerebral decompression sickness.

The clinical manifestations of decompression sickness probably occur in a form of some discomfort and vascular abnormalities produced by bubbles. One problem is that intermediate bubbles can obstruct vascular mechanisms. In addition to intravascular bubbles are thought to be blood, secondary effects can result from low tissue

of the bubble surface, with blood cells inside. These effects induce distention of plasma proteins as a result of alterations in the structure of globular plasma proteins¹ resulting in increased blood viscosity and obstruction of bubbles with the blood coagulation system leading to accelerated clotting and to the complement defence. Associated with these effects there can be haemorrhage into surrounding tissues.

The pre-existing damage to nerve cells and to blood vessels, especially small capillaries which has been demonstrated to occur on head injury² could theoretically prolong in the effects of decompression sickness. If there was recurrent exposure to highly or to shallow, then there might be an increased likelihood of bubble trapping and subsequent haemorrhage or thrombosis which could then go on to produce the secondary cerebral decompression sickness seen, later and more distant to treatment. There is no evidence to support this hypothesis.

DISCUSSION

Present knowledge indicates that brain damage of a permanent nature occurs on all forms of head injury when there is a loss of cerebral arterial perfusion. Even such a brief loss of cerebral perfusion causes permanent brain damage, albeit of a lesser degree, will occur.³

The maximal percentage damage which results is not usually clinically detectable after 4 weeks.⁴⁻⁶ Until the possible occurrence of the damage with conditions which were while diving is observed, it is not possible to define a degree of injury which is considered completely safe. However the risk to individuals was minimal cerebral damage while diving appears to be rather slight or very minimal. Although no one has examined the problem in detail, minor head injuries involving diving along with associated slight decompression are not an uncommon event. Individuals with such a history do not appear to have a higher incidence of diving related illnesses. A prospective study of cases of acute decompression sickness or argon toxicity and argon toxicity is under way to determine if head injury may increase the chances to see whether these individuals have a higher risk when diving. Previous difficulties are the extreme rarity of cerebral decompression sickness and the fact that only rarely has a good history of head injury been been associated in decompression fault pressure diving.

However, in a history of the circumstances would appear to present a minimal risk whilst diving, present guidelines are insufficient either direct or the indirect, especially if exposure who has ever

suffered any form of head injury, is excluded from diving. Thus in the difficulty that a large number of experienced divers will sustain a head injury and, if they are a consequence be excluded from further diving, a loss of experience will arise.

To make a rational decision it is necessary to estimate the degree of brain damage by accurately measuring those who are susceptible to head injury. If an individual persists with a good history of head injury and the ability to recall any other illness or accidents, the theoretical post-traumatic aetiology is a good guide to the degree of cerebral injury which occurred at the time.⁷

The possibility of PTSD⁸ although increased after head injury, is unlikely to be a problem if more than two years have elapsed since the injury and, at best, 44% of cases will persist within the first two years.⁹ If considering an individual with a recent mild brain injury, the risk of PTSD is very low.¹⁰

Although a history of mild trauma may not necessarily degenerate from diving, it does be suggested that a small increase in incidence of a higher probability of cerebral injury occurring. This can be the case if the injury event accompanied by loss of consciousness.

Other investigations are considered of limited value. Psychometric testing can be of use in determining the degree of brain injury if there is a pre-injury reference score. Otherwise psychometric testing will only show the abnormal findings which suggest a few few weeks following an injury.¹¹

The use of EEG investigation is also limited, as well as the problem that 10% of otherwise normal individuals have an abnormal EEG, the record given will not reveal the clinical findings that occur on minor head injuries. These injuries, so be little correlation between an abnormal EEG and diving risk and diagnosis.¹²

Only where there are pre-injury EEG results to compare is it likely to be of use. Similarly CAT scanning will not determine the cerebral cerebral damage that occurs.

Therefore any head injury resulting in cerebral damage more serious than mild brain injury should be considered a contraindication to diving. The only to circumstances for use for the only appropriate and the subject is other neurological mild brain injury is considered to another a brief loss of consciousness with no focal neurological deficit, it also includes patients with some evidence of head challenges but who do not have consciousness. The period of unconsciousness should be less than 10 minutes and the period of post-traumatic amnesia should be less than 10 hours. Although the period of amnesia is accepted as being, largely an

reflexory spasm (although of PTA even good) is all there being only limited muscular damage.

The trauma done when victims are hit, i.e. 1 consequence more for possibly injured, is a question to anticipate that even though the injury appears superficially unaltered specific tests will usually reveal impairment of cerebral function for 2-4 weeks following the injury. — This is especially so with those patients who complain for a time of headache, confusion and difficulty with concentration. Cerebral examination should be kept on standing when he is fit to resume diving.

Consideration should be given to other aspects of head injury such as parietal lobe, and posterior cerebral damage. As they accompany the majority of cases of mild head injury that patients will not permanently be handicapped from diving unless they are aware on period, like most their brain status.

A history of a depressed skull fracture will frequently however cause further brain trauma with as many sequelae that those associated with minor head injury should not necessarily missed, though.

The use of these guidelines will produce a more standardized response to a history of head injury and assist the results of the examination (24) currently given. It will also reduce the frequency of visits are required of specialists for diving which is known to occur.

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Passive immunisation against hepatitis A

[illegible]

The use of Interval Mapping, based on data linkage to a genetic marker map (Hagenaars & van der Vaagden 1992), has been shown to be a powerful method to identify genes underlying complex traits. The possibilities of this method, including various types of linkage analysis, were illustrated in the context of a simulated data set. A simulation was used to illustrate the power of the method to detect a gene underlying a complex trait. The method was applied to a simulated data set. The results of the simulation are presented in Table 1. The results of the simulation are presented in Table 1. The results of the simulation are presented in Table 1.

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Inference with the hypothesis. A virus (HSAV) provides a rapid biological stimulus to initiate the production of IgM antibodies of anti-HSAV IgM over the first few weeks, followed by the appearance of IgG antibodies (anti-HSAV IgG). Specific IgM becomes undetectable 4-6 months after the infection has settled, but anti-HSAV IgG usually remains detectable at the levels for life and gives persistent, accurate serologic evidence of infection. Hence the presence of anti-HSAV IgG strongly indicates, although not proves, that the patient has been infected with the virus.

protection against hepatitis A can be effected by the viral Haemagglutinating Inhibitor (HVI), which contains antibodies against the

Tryptophan from Western Storage was the superior one because it led to considerable rate of contamination, Figure 4. The difference is manifested by the broad-based curve and the rate of contamination, as can be clearly noticed in the preceding standardized figure. Bacterial processes are highly likely to be exposed as soon as when the substance is distributed.

Hill and co-workers¹ determined the relative risk of travellers acquiring HAV infection by studying patterns from England and Wales, with elements highlighted which were consistent with HAV IgM, presumably indicating recent infection. Of the 10 patients, 1.25 per cent history of foreign travel within the previous two months. By the authors were notified of seropositivity that travel history of these cases was typical for the UK, a further factor than the International Passenger Survey.² Again, no reference was made to travelling to endemic parts of the world were derived. Taking the risk of contracting viral HAV infection while visiting South Europe, North America and Australia as 1, the relative risk of a visit to the Far East was estimated as 11, compared with 108 for Africa, 106 for the Middle East, 108 for the Indian subcontinent and 4 for visits to islands within tropical regions. The implications of these figures as a stimulus to care of the infected by which the y were derived and subsequently to travel as a rough guide. The authors set a pattern of discussion of any purpose of visit, type of accommodation used or type of food eaten, factors which are integral to the mode of transmission of HAV infection.

The highest level of unemployment is also reported in the Five East as evidenced by studies of local economies.

tests (Hepag) investigated the prevalence of serological markers of previous HAV infection in 423 children in Tver, and found anti-HAV IgG in 47% of total blood samples (serum not included). The prevalence dropped to 14% of children aged 1-10 months, then rose to 18% by age 5, 26% by age 10, and 50% by age 15. Hence over 50% of the adult population showed evidence of previous infection with HAV. The investigators presented evidence in a statistical summary that this data is a highly endemic endemic area, and for HAV infection that is typical of those places in the world with poor public sanitation.

Investigators considered the use of HNS in the Russian Army and concluded that current prophylaxis of troops (one two one protocol) with the expected sanitation (not definitely of HAV infection) was not so high as to give a significant infection profile for such a unit. The data supports its use for exposures and the low seroprevalence of hepatitis A would put a significant burden on medical resources in detecting the rate of the infection. However, relying solely on the grounds of hepatitis immunization costs for prophylaxis for governmentally placing a unit at high risk of this environment and epidemic infection. On purely economic grounds, there is no harm in sending a unit out to do a training exercise only for him to be unable to complete a deployment without further health-care support to other members of his service in the emergency conditions of a jungle environment. In an operational situation there is even less justification for not immunizing against hepatitis A if HNS is available.

The case studies study carried out on D-Company were:

- 1) to assess whether screening for serological proof of immunization of HNS would have been cost-effective for would be for similar situations in the future;
- 2) to determine whether anti-HAV IgG seroconversion was detectable in serum two months after immunization of HNS;
- 3) to look for serological evidence of HAV infection in a population which had received prophylaxis.

METHOD

Seventy cases of the 441 men of the Russian Corp, Troop 14 (motor body) volunteered to take part in the study. A brief clinical history and examples of serum were taken from each before flying out, the last was three hours. The whole Company was then given a standard dose of HNS (1.0 ml) as primary prophylaxis against hepatitis A. During the deploy-

ment a detailed record was kept (by the extent of any illness). A second serum sample and a quality history were taken from each three ten days after returning to the UK, two months after equal administration of HNS.

All sera taken before deployment were screened for the presence of anti-HAV IgG. Sera taken after the deployment were screened for anti-HAV IgG (both the test required was used for anti HAV IgM, Enzygnat Linked Immunosorbent Assay (ELISA) techniques were used for all specimens.

RESULTS

The members of the study group suffered a clinical illness suggestive of hepatitis A infection.

Anti HAV IgG was shown after in 18 (21.5%) of the 84 subjects before the exercise, and the mean of had detectable levels elsewhere.

Anti-HAV IgG was not detectable in serum taken after two months in the remaining 66 subjects.

Anti-HAV IgM was not detected in any subjects.

DISCUSSION

Reid¹ showed that primary immunization with HNS will protect both Russians against clinical (or minor) infection with HAV for up to 10 weeks. In a study of 1974-13 British Army recruits given HNS, Reid found that a single dose of HNS gave 83% protection against clinical HAV infection for two months, and 50% protection over 12 months, when compared with a control group of 12501. Other workers have been rather less optimistic in their estimates of the duration of protection. Pollack and co-workers² studied 1973 Vietnamese (Army Corps) (NSG) workers who received HNS and HAZ who did not, and came to the conclusion that protection lasted approximately seven months. Wootton³ studied Peace Corps Volunteers (volunteers a control group) and recommended changes of primary immunization at six month intervals in exposing every four months.

These studies and their conclusions are rather markedly not directly comparable for a number of reasons. The definition of protection varies somewhat in each study and not control group⁴. It is an expected outcome⁵. Investigators⁶ makes the point that the consistency of studies provides coverage (major statistical) should be difficult to determine because the proportion of cases reported may be as low as 30%—quite why this should be the case is not stated. Furthermore, the real point of these

trade in coffee taken in the period when the incidence of the disease in the study group becomes equal to that in the control group—(a) some of the men of group will have developed cases of leishmaniasis during the study period (by having had their blood and/or smears at a locally run venous study group) would stay in hospital.

Another problem with these studies is that there is high mortality associated with it of the population itself—this would be expected in there is a dead, effectively disease-free population from the venous study group working half life of well-supplied, high morbidity approximately 15 days. The primary infection of HAV is a relatively low level of the first 18 years, while not being adequate for prophylaxis in the venous study. A typical incubation period for leishmaniasis from 18 years to the venous study and that of HAV is in proportion to the time it is in the body of leishmaniasis is required that a larger dose may be given in the venous study.

The first time that HAV was not demonstrated by 21 non-infected subjects two months after administration of HAV is the case of two HAV subjects. Since the previous group significantly less than two months. Finally the duration of a 10% of the HAV given intravenously must be considered—some will remain localized in the site of injection, and the remainder will be distributed throughout the circulatory system. It is thought that the intravenous administration of HAV, the PLHA, antibodies must in the study in only non-specificity, and the (the) study which the results in statistical significance—demonstrated with leishmaniasis observed—may be the high. Lowering the threshold level on the (the) study decreases the specificity and (the) study with specificity. Finally, the HAV study is not known—perhaps the most plausible explanation is that a very low level of specific antibody could be a small subject group, the study to be effectively controlled, and that the study would, a study was good enough—these results. It seems also to have in that the site of HAV is not known—perhaps the most plausible explanation is that a very low level of specific antibody could be a small subject group, the study to be effectively controlled, and that the study would, a study was good enough—these results.

The incidence of leishmaniasis of HAV infection after HAV is very low—approximately 11 cases in 1501 person-years has been quoted for Foz de Iguaçu infection in Brazil. Also, in the study of 144 person-years. ¹⁰ In the light of these figures it is not surprising that the group studied here did not have any more cases.

Surprisingly, studies may however, reveal that a difference in the frequency of leishmaniasis is not

in the HAV infection, studied for the intensity of leishmaniasis, and there is a significant difference in the incidence of 11.1 in patients who had received HAV. This probably explains the phenomenon of 10-11 cases of leishmaniasis infection, in which a patient, usually with HAV IgG negative (negative HAV) and subsequently found to be positive for anti-HAV IgG without apparently ever having had leishmaniasis. Leishmaniasis avoided a French military unit during a five month deployment in Chad, 19 years after infection in a population of 1000 who was an anti-HAV IgG of 174 men who did not have anti-HAV infection and who were found to be anti-HAV IgG-negative (the) study. 124 had detectable levels by the end of the 1000th day.

The 21.1% prevalence of previous HAV infection in the study population is of the same order as that found in the Royal Navy (approximately 21%).¹¹ Several workers have suggested that screening for immunity to HAV infection should be carried out before the administration of HAV.¹²⁻¹⁴ In support of this both on the grounds of cost effectiveness and in terms of avoiding unnecessary immunization procedures with their associated risks. These workers have also been concerned with prophylaxis for people described as 'at risk' or have been considering a population with a higher incidence of some of immunity to HAV infection. As part of the cost effectiveness of screening can be directly derived for a study group such as the one we have described for the HAV as well as the study was 12.1% (the) study of 1000 cases of leishmaniasis 71 men were studied (12.1% of 11 of these men were already immune, therefore 12.1% was given to unnecessary immunization. For immunization screening before leishmaniasis infection in the population, a small number have had in and less than 12.1% to that of 71 men, in 71 person-years. Commercially prepared test for anti-HAV IgG testing using ELISA are only just becoming available in the country, and the cost is likely to be of the order of £1.1 per test. Anti-HAV antibody testing has been available using Radioimmuno Assay (RIA) for some years. The cost per test is just over £1. Hence anti-HAV IgG screening in this group would only be cost effective if the planned duration of stay were to exceed 12 months (based on a three month post-infection antibody, a cost per dose of £1.1, a cost per person-year of £1.10, and a clinical probability rate of 21.1%).

The role of giving prophylaxis to leishmaniasis HAV is not widely appreciated in the very low immunological problems have not been considered, and the product has a substantial history of viral safety in terms of the population from which it was

a few countries with epidemic or sporadic cases since during immunization involving exposure to alcohol and to the consumption of swimming water in the swimming-baths.¹² However, there are two basic aspects of transmission of both hepatitis B and non-A, non-B hepatitis by HBV.¹³ HBV affects no protection against hepatitis B. A series of early reports about HBV protecting US military against hepatitis B have now been discredited as they were based on observations due to contamination with hepatitis B virus (HBV) before the development of screening of donors for HBV.¹⁴ Transmission of AIDS by HBV has yet to be reported and related transmission will involve HBV B1.¹⁵

CONCLUSIONS

Hepatitis A is highly endemic in most parts of the world where standards of hygiene are poor, people work and travel, give organ donations for exposure to HBV infection. Prophylactic immunization can be justified on medical and epidemiological grounds, but it is not possible to bring into account the cost of giving a vaccine to one part of a population for whom it is not generally necessary. The cost of generally immunizing the whole Community will probably be less than the cost of giving vaccination and tests. Passive prophylaxis against hepatitis A using HBV has no practical value of both efficacy and safety.

From the current point of view, while the prevalence of active immunity against hepatitis A in the Royal Navy and Royal Marine recruits is generally high, passive immunization against hepatitis A using HBV is not cost effective in cases where the duration of exposure will not exceed 12 months.

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The effect of exposure to simulated ship fire-fighting spray systems on the transfer factor for the lung

Caroline S M Searns and F St C Golden

Summary

The effect of submersion times under a fire-fighting sprayer (10, 20, 30 and 40 l min⁻¹ flow, 5 bar, a Rediffusion variable system) was investigated in seven volunteer subjects. Mean values of transfer factor (l min⁻¹) before and after exposure to the sprayer showed no consistent change. There was a significant increase in mean mean pulmonary blood flow (l min⁻¹) in the two longest sprays, but a mean rise of only 0.4 l min⁻¹ was significant in all but one subject. The effect of the sprayer on the transfer factor for the lung was not significantly affected by the duration of the sprayer exposure or the flow rate of the sprayer. No significant change in the transfer factor for the lung was observed.

INTRODUCTION

Automatic fire-fighting spray systems are fitted to compartments of many ships which are capable of delivering between 10 and 40 l min⁻¹ flow of sea water depending on the type of nozzle fitted to the spray head. The requirement for any particular compartment is usually dependent on the nature of the fire risk. The spray produced by the system varies in particle size from fine mists through to large droplets.

The possible danger of asphyxiation, even drowning or secondary drowning¹⁻³ in personnel exposed to these sprays was considered. Serious, sometimes fatal, pulmonary oedema—secondary drowning—may develop any time from 1 minute to 11 hours following a brief exposure, usually⁴⁻⁶ 1-2 h. The mechanism of secondary drowning is not clearly understood but is believed to be in the nature of a massive inflammatory response to mechanical stress on the alveoli.

A few dramatic but uncontrolled reports, unsupported by systematic study, led into the belief at the conclusion of light to mild pulmonary oedema in a

series of small isolated cases of asphyxiation in float-filled alveoli. Days after exposure to tanks as little as 1.5 ml of seawater per kilogram body weight there is a fall of approximately 50% in the transfer factor⁷.

Thus it was necessary to establish if any pulmonary physiological values resulted from these sorts of exposure to such fire-fighting sprays in order to establish what, if any, protective measures might be required.

METHODS

Exposures of five subjects (three to spray systems of 10, 20, 30 and 40 l min⁻¹ flow were undertaken by two groups of five subjects selected from seven physically fit male volunteers. All subjects were fully aware of the purpose of the study and subjected to no-flow rights on assessment with the Rediffusion device. Height, weight, age and smoking habits for the subjects are shown in Table 1.

WATER CLEANLINESS

As the water used in the spray system was taken from a nearby bilge tank, a laboratory study was undertaken in advance to establish possible changes in phosphate concentrations. Regularly scrubbing of the bilge tanks was shown to produce small and brief increases in the spray.

EXPERIMENTAL PROCEDURE

The subjects were placed in water whilst standing beneath a mechanical control and throughout the exposure until all gas transfer had ceased, as verified by the spray machine computer.

Table 1. General Characteristic of the Subjects.

Subject No.	Age (year)	ht (cm)	wt (kg)	group
1	21	184	81.5	MS
2	24	180	104.0	S
3	40	170	81.7	MS
4	30	176	90.0	MS
5	37	178	88.0	MS
6	33	180	70.0	S
7	19	181	87.0	S

MS, subject selected from pool on the MS and S (1st) or (2nd) exposure.

S, those subjects that had performed the MS and S (1st) or (2nd) exposures for another MS exposure.

Table 2. General Factor ($T_{\text{core}}/36$) measurements and percentage change before and after (day) and Δ of the $T_{\text{core}}/36$ experimental exposures to two levels of lighting levels.

Subject	Pre	First Exposure		Second Exposure		
		Post	% Change	Pre	Post	% Change
1	10.30	10.23	-0.7	9.78	9.81	4.0
2	10.77	9.60	-10.7	11.11	10.32	-7.2
3	10.11	11.10	+9.7	11.00	10.23	-7.9
4	—	—	—	10.41	9.41	-10.1
5	9.90	9.00	-9.4	9.73	9.87	+1.4
6	10.11	10.60	+4.8	—	—	—
7	10.16	9.78	-3.6	—	—	—

7 under Factor 1 used 23 W, 100 V.

From the first experiment each subject participated in a series of four hours in the laboratory. A component of these exposed four exposures were performed according to standard methods¹ using an Q800-340 dry thermometer (see P. E. Morgan (Kendall, Kent) Spore Data Der Microprocessor for measurements of resistance capacity and accuracy of any possible thermopile closely present. The subjects then performed a minimum of two single trials measurements in the second portion on a P. E. Morgan (Kendall, Kent) C to estimate the surface emissive capacity factor for the large ($T_{\text{core}}/36$). This was then adjusted for the water vapour measurement standard volume (V_w) and the water coefficient (k_w). The Morgan Spore Data Dry was used for the calculations.

First exposure. After an exposure to a spray intensity of $20 \text{ l s}^{-1} \text{ m}^{-2}$ for 1 minute (water temperature 3°C) followed by a 20 minute rest and a further exposure for 3 minutes to a spray intensity of $20 \text{ l s}^{-1} \text{ m}^{-2}$ the subjects returned to the laboratory and repeated the $T_{\text{core}}/36$ measurements. The interval between the two sets of tests was approximately four hours. An additional measurement was taken in three of

the subjects (Nos. 1, 2 and 3) after a further five hours.

Second exposure. This was continued two months later using five subjects, four of whom had taken part in the first experiment. The same procedure was used as in the first experiment but with the third measurement being taken from all subjects. The spray intensity for the exposure was set at $20 \text{ l s}^{-1} \text{ m}^{-2}$ and $40 \text{ l s}^{-1} \text{ m}^{-2}$ water temperature 3°C .

Control. Subsequently as described, several months after the spray test exposures, post-exposure clinical measurements of $T_{\text{core}}/36$ were taken to two hourly intervals throughout the day from 08.00 until 11.00 on the two subjects participating in the spray test phase of the experiment. The subjects returned to their normal work between measurements.

Calibration of the equipment was carried out before each set of tests and the subjects were calibrated in the same order each time. Prior to the experiment all the subjects had been rehearsed with the measurement procedure.

RESULTS

General Factor

There was a wide individual variation in $T_{\text{core}}/36$. The results are shown graphically in Figure 1 and

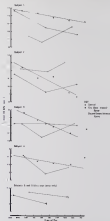


Fig. 1. Changes in anterior (O) and posterior (●) chest expansion after the working day at and below and after exposure to steady rotations of 10 and 20 and 20 and 40 $\text{rev}^{-1} \text{min}^{-1}$.

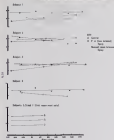


Fig. 3. Changes in effective chamber volume (V_e) in 7 subjects over the working day and before and after exposure to isopropyl alcohol of 10 and 20 and 30 and 40 ml l^{-1} air.

the immediately post-exposure changes are summarized in Table 3F.

During the first four hours following both exposures $\dot{V}_{E,20}$ fell by between 2 and 10%. In the subsequent four hours only one subject showed a small rise in the first experiment, whereas in the second experiment all the subjects showed a rise to a value as high as the 15% above the control.

For the post-exposure control measurements, the mean rate of decline was 0.445 ml min^{-1} (range 0.089 – 0.799 ml min^{-1}). If the post-exposure remains are then related to these values, in the control four experiments all the subjects were at or below the values predicted from the control. In both groups \dot{V}_E was reduced by more than 15%. In the first four hours following exposure \dot{V}_E showed very little change other than a slight drop of a further 2% in the second experiment. During this period

however, subject 2 absorbed ca. 100% of predicted.

During the second four hours, for all but one of the subjects $\dot{V}_{E,20}$ rose by a mean of 10.5% (range -1 to $+17\%$). The average decline in \dot{V}_E found over a day was 0.279 ml min^{-1} for subject 1.

Effective chamber volume

In three of the five subjects for whom defined measurements were taken, V_e remained constant throughout the day. The fourth subject, No. 2, showed a slight decline of 100 ml l^{-1} .

Following the first experiment, all the subjects showed a steady rise of between 1.4 and 6.7% in the first four hours following exposure and 0.2 to 1.4% in the subsequent four hours. Following the second experiment, V_e showed no systematic changes except in subject 4 who showed a 7%

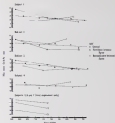


Fig. 1. Changes in transfer coefficient (K_L) in 4 subjects over the working day just before and after exposure to spray simulators at 10 and 20 and 30 and 40 min⁻¹ over⁻¹.

decline during the period following the exposure (Figure 2).

Transfer coefficient (K_L)

In the four subjects for whom detailed data was available, a decline was evident over the control day from 0900 to 1700 ranging from 0.006 mmoles hr⁻¹ (subject 4) to 0.022 mmoles⁻¹ hr (subject 2). All the subjects also showed a decline in K_L following the first exposure which was sustained throughout the day and in all cases was deeper than predicted from the control exposures. The second exposure also produced a decline, though less severe than that found in the first exposure. In all cases this decline was followed by a recovery, and in three subjects a return to normal levels. The results are illustrated in Figure 3 and a summary is given in Table IV.

DISCUSSION

The transfer factor of the lungs (TF) provides an index of the effectiveness of the pulmonary capillary

and pulmonary membrane, and of the efficiency of the system in the process of respiratory gas exchange.¹⁴ Thus any changes in the surface area of the respiratory tract, the average thickness of the pulmonary membrane or the diffusion coefficient of the blood in the membrane will be reflected in changes in TF. The transfer coefficient (K_L) provides information on the density of capillaries in the alveolar walls, but tends to be rather more difficult to interpret than TF from which it is derived.

Schmidli¹⁵ at al found that inhalation of micronized nebulized solutions of distilled water and hypotonic or hypertonic, but not isotonic saline induced significant reductions in the forced expiratory volume in one second in volunteer patients. His response was noted in normal subjects. Similar results were found by Allgren and Boman¹⁶ using distilled water only. They observed the importance of the small particle size and high density of the aerosolizer used in producing the effect. A decrease in the radius of 2.5 μ will give an 80% improvement in the density while the large

Table 10. Changes in Transient Coefficient K_{TP} and peak magnitude m of a typical ϕ function

Subject	ϕ	First Experiment		Second Experiment		
		Peak	% Change	Peak	Peak	% Change
1	1.67	1.21	-28.0	1.10	1.18	+6.8
2	1.58	1.49	-5.7	1.87	1.75	-6.4
3	1.57	1.47	-6.4	1.43	1.37	-4.2
4	—	—	—	1.52	1.60	+5.2
5	1.57	1.40	-10.8	1.43	1.45	+0.8
6	1.78	1.59	-10.7	—	—	—
7	1.77	1.45	-18.1	—	—	—

Transient Coeffs are a mean ± 0.05 , 1 case.

experiments are dependent on the mode and upon season.

From the results obtained from the experiments to the two water spray systems it is clear that the two experiments had different effects on the variables measured. As the literature would suggest, water loss of the spray produced a lowering of T probably as a result of evaporative cooling of the surface area available for gas exchange. phosphoric anhydrous element and possibly a small amount of potassium oxides. It is of interest that the reduction was greater after the hours of the two runs of spray treatment. As the water on the system was somewhat acidic (1.0 compared with 7.0) and had apparently become contaminated with dust oil because the air coming for combustion includes a quantity, it is possible that some reactions produced an additive effect. Cold sprays are known to produce increased loss in the broodlet population¹² and there are several reports of the effects of ultraviolet oil. Jacobson *et al.*¹³ examined the prevalence of respiratory symptoms and measured respiratory function in men exposed to oil mist and found that the mean values obtained by the open-circuit technique accurately measured by a single breath method, but not differ significantly from the reported values. Ely *et al.*¹⁴ in a study of similarly exposed subjects, concluded that the concentrations of oil mist experienced by his subjects were not associated with an increase in respiratory symptoms nor a decrease in respiratory performance, measurement rates of sleep apnoea.

Lundberg *et al.*¹⁵ exposed four groups of men to two different oil: silvery and a high lubricating oil for periods of between 180 and 240 days and found that respiratory tests of acute class in the lungs and that which was returned was equally restricted to pulmonary pressure rates and lung tests by standard measurements.

That a certain stability that the total ϕ measures exposure for the oil experienced by the

subject, could have produced any profound or lasting effects. In contrast with many other long term experiments,¹⁶⁻¹⁸ T , shows both upward and downward responses.¹² Changes of function measured T by a single breath method in normal subjects and found a steady decline of 1.2% per hour between 09.00 and 17.00. They concluded that about 40% of the values on mean T was due to variation in ventilation and haemoglobin levels (both of which show diurnal variation)¹⁹ and proposed that the rate of change be related to lighting as circadian rhythm levels or the influence of higher centres.

In a second experiment, Carlson and Thomsen²⁰ again measured T but only two measurements with significant times between them were made on any one day. In this experiment they found that T fell over the 24 hours period between 09.00 and 17.00 but showed a slight rise between 17.00 and 19.00 for which they offer no explanation. Two of our subjects showed a similar pattern with all the measurements taken at one day but we are doubtful as to how far it is why these two subjects should have shown this particular pattern.

The largest decline in T we found over a day was 2.19 mmHg for the subject 7; the only subject for whom we had diurnal data. No correlation for carbon monoxide breath apnoea has been reported for subjects, but says if this is taken into account, a marked diurnal change is still apparent.

Apnoea may have had a further effect on T ²¹ and it is possible that part of the fall in T observed following the two exposures is due to a variability of intensity over the experiment is complete. All of the subjects were sedentary with the measurements taken prior to the exposure and apnoea may have led to the actual values being raised.

CONCLUSIONS

Because the changes seen—particularly in T —are also in \dot{V}_E and \dot{V}_{O_2} —are apparent and similar

density and the very small sample size we conclude that no significant changes can be demonstrated at pressures less than 10 cm H₂O in both low and high density anaesthetic systems.

Acknowledgements

The authors wish to thank the Medical Director General of the Navy for permission to publish this paper. Thanks too then due to the members of the staff of the Ministry Marine Technology Establishment (HMS) for building the simulator and providing the supporting engineering facilities for the repeat of the experiment. Finally the cooperation of the volunteer subjects who volunteered themselves to take an unpleasant experience as two repeat occasions is gratefully acknowledged.

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Results of recent research on life-jackets*

R. Henmann and A. Störmer

Summary

Unintentional drownings providing the specifications for life-jackets used in general water accidents, frequently British Commonwealth waters, were discussed. Within these general conditions, manufacturers use the existing design criteria of their clients.

Two cases (children) resulted from unobserved or faulty use of life-jackets when used in conjunction with experienced underwater divers at a water height of 10 cm. The results show that the duration of the rescue of many of these life-jackets—when used, the required design criteria—will be limited particularly heavily in drowning.

INTRODUCTION

Many deaths in the Second World War and earlier up to shipwrecks with substantial losses in the 1950s, in which it was found that many people died as a result of drowning despite wearing life-jackets have led to research and improvements in the design of these jackets at national and international level. The most important design criteria within the framework of the present manuscript should be kept clear of the water. Moreover, and that* reported that a person in the water loses the ability to move relatively quickly under various conditions of hypothermia, exhaustion or oxygen depletion, while life-jackets are designed, considerations must also be given to ensure that all necessary rescue has arrived at the water.

Two-couple jackets with mechanical pumps at water were seen based on the considerable increase of the associated risk together with difficulties in reparability—which also applies to repairs.

Finally, Park described his thoughts on the development of a first-draw (inflatable) life-jacket in connection the design of an inflatable body in the water. Such an inflatable device was constructed in the USA. It was a model of an average man in accordance with the anthropometric tables of the 1940s with a height of 1.75 m and consisted of a plastic-coated stainless steel moulded by plastic material on the shape of a body. All the joints (orthopaedic) between parts in that moulding. It behaved in the water on the same way as an inflatable person. Unfortunately, Park was unable to carry out extensive experiments using the device. The device was purchased by the Portland Navy Institute, Haverly, manufactured and used in the experiments described below. (A fuller account of the study is available in a Defense Research Information Center Report.[†])

METHODS

As the inflatable device* cannot be inflated for general acceptance, two-couple jackets were used to represent a single average human. The method devised to represent particular questions and to adapt experimental arrangements which appeared to have never been dealt with or used elsewhere. They were directed at the influence of the type of life-jackets, which are now commonly used and are commercially available, on hypothermia caused by the water in heavy seas. Numerous different types of life-jackets used in commercial sailing, the German Merchant Navy, the Federal German Navy and the British Royal Navy were selected. The selected types of life-jackets represented features and the purpose for which they were used and the density of oxygen are shown in Table 1.

The device was dressed in a female and given shoes. A standard ECG (heartbeats/min) monitor

*Based on a translation from the German supplied by the Defense Research Information Center and published by kind permission of the authors and the Director of the Department of Defense for Health and Psychological Services, Haverly.

Table 1. Description of set-up of the moving experiment target.

No.	Page	September 1978	Country of origin
1	4	5	Federal Republic of Germany
1a	4	5	Federal Republic of Germany
2	4	5, 6, A4	Federal Republic of Germany
3	4	5, 6, A4	Federal Republic of Germany
3a	4	5, 6, A4	Federal Republic of Germany
4	5	5	Federal Republic of Germany
5	5	5, 6	Federal Republic of Germany
6	5	5, 6, A4	Federal Republic of Germany
7	5	5, 6	Federal Republic of Germany
8	5	5, 6	Federal Republic of Germany
9	5	5, 6	Federal Republic of Germany
10	5	5	Federal Republic of Germany
10a	5	5	German Division (Royal Navy Jambou)
10b			(Indian navy should record)
11	5	5	Federal Republic of Germany
11a	5	5	Federal Republic of Germany
12	5	5	Federal Republic of Germany
12a	5	5	Germany
13	5	5	Federal
14	5	5	Federal Republic of Germany
15	5	5	Federal Republic of Germany
16	5	A4	Federal Republic of Germany
17	5	5	Federal Republic of Germany

- Setting: a = laboratory;
 F = field;
 Fb = target in permanent performance;
 G = general trial setting;
 H = Half-Speed Navy;
 Hb = training centre for Merchant Navy;
 M = Marine;
 Mh = sea king centre for Navy;
 N = student experiment;
 S = German shipyard of sea king and merchant type.

were used for investigating the test data, its weight being provided by additional buoyancy. A sensor in the middle opening of the buoy triggered a signal, acted on a recorder when the sea buoy was flooded.

The experiments on 'happy man' were largely carried out in the Federal German Navy picture pool in Flensburg, as well as, if possible, in some other 50 cm high tanks with the set as different water, water types or so as a house set. Sea trials were also carried out in the middle of the lake and under the pier of Lübeck, but these had to be terminated because the water was too high. It was observed during the sea trials that the buoy, as expected, floated in the oblique, gave up attitude, being the company wave.

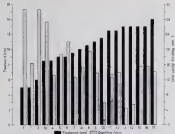
Since there is no wind effect in the picture pool, experiments were carried out to simulate the influence of wind. The wind forcing product to make the effect of wind was achieved by moving long ropes (20 m) to the cables. With all test carried in this way, the buoy adopted the same attitude, like-up position, being the water in a different tank.

Free drifting without the effect of wind was simulated in a further series of experiments, so because the wind force was not simulated the data would only give under the influence of wind over a long period. Freeboard measurements were also carried out on all the tanks.

The variables measured to establish the life saving function of the jacket were the flooding frequency and the flooding period of the main (primary variable) and the freeboard, in the distance of the marks from the surface of the water (secondary variable). The number of times the marks in flooded and the time during which this happens are without doubt the decisive factors in determining the probability of surviving in the case of a person wearing a life-jacket and drifting adrift in a stormy sea.

RESULTS

In the first step means the frequency of flooding per minute under the effect of waves was measured equivalent to the measured freeboard in calm water. The results are shown graphically in Fig. 1.

[illegible]

It will be established that the frequency of nest flooding varied between 0.2 and 1.4 times, while the frequency of nest flooding varied between 0.2 and 1.1 per minute. There was a linear relationship for the length of the floodwater to have a direct effect on the frequency of flooding, although this is only true up to a length of 100 mm. Above 100 mm, the frequency of flooding is constant at 1.4 times per minute. However, this is only a relationship with floodwater height of around 100 mm, above this approximately the same is even lower frequency of flooding than some of the others with a floodwater of 100 mm.

Jacky 7 and 8 are approved by the Maritime Professional Association for the Officer's Watch on May. Jacky 10 is a French naval laboratory, jacks 11 and 14 are used as the French Coast Guard. May, 16, 17 being the jacks for emergency signals and May, 18, 19 are the same jacks.

Factorial pair 1a and 1b correspond to typical and non-typical jumping to priority and front-door, but are modified as there is. These changes to the fit of the model are illustrated in the table below (the fit to the data will be more or less the same for the non-typical cases, which is

series of experiments were still under way when general comments were approved. In our experiments, we found that the modification produced a significant increase in frequency, which had a noticeable effect on the frequency of flooding. The number of flooding, expressed as points, is 10.72 at competition with point 3 with a flooding frequency of 7.7.

The top work at the treated culture for *galact* No. 18 indicates the frequency of single flooding which occurred when the total time spent was 10 min. The number of floodings decreased from 1.4 to 0.2 per minute as a result of using the brood. The total culture for *galact* No. 11 which again is divided into two shows 0.2-0.3 floodings per minute when used as a single chamber *galact*, and 0.1 floodings per minute when used as a two-chamber *galact*. The *galact* is normally used as a two-chamber *galact*. However, the second chamber can be reinforced and as an emergency pans to increase without a split.

The Journal of Economic Perspectives, which began the

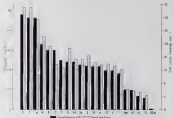


Fig. 2 Flooding and the tidal breathing range as a percentage of the total maximum and post-flooding range of tidal breathing frequency of 15 patients (not all standard values). The maximum range of the tidal breathing range is in Table 1. 100° indicates the 90-10, value with the split-gate in use.

British Naval Airpilot (No. 10) with no spinal processes fixed in use, was chosen by patients 13 and 14, although they have a pronounced lordosis of 13 cm.

The maximum tidal breathing range of the damper was flooded was also studied. The results (Fig. 2) show the flooding time as a percentage of the total maximum time.

In all the experiments, after the maximum damper had adopted a stable position in the water, the life-jackets were restricted in the strong programme for at least 15 minutes so that reliable values were sufficiently long periods were available, and no other values were likely to appreciably affect the test value obtained. The membership of the jacket was measured in Fig. 1 but the test is again measured in Fig. 3 relative to the percentage time in the flooded zone. The flooding time is measured 15 and 17% of the total maximum. A, shows that it appears to compare with Fig. 1 some types of jacket have altered their position relative to others in the water. It can also be seen that in the timing of the two jacket conditions, the membership. Note 1a and 1b, jacket 1a does not show any decrease in flooding time, although an increase in lordosis by 1.5 cm was achieved by

the modification. This discrepancy indicates that from a particular height of lordosis, a certain % of the jacket which is dependent on the spinal curvature. This is quite clearly apparent if we consider patients 5 and 1a, by using a modification of the 1a of jacket 3. This modification has caused a reduction in the period of flooding by nearly half. Jacket 10a, 11 and 11a are the Poles of German Navy-jackets as single-breasted coats in the case of 10a, 11 and two-breasted coats in the case of 11a. Jacket No. 10 is 100° in the British Royal Navy-jacket, 100° when the spread spray shield is used.

The test of jacket is indicated in Table 3 to distinguish between valid and reliable patients. It may be seen that there are sufficient and valid patients in all ranges of performance with an accumulation of valid patients in the middle range.

Characteristics of results

The moments of inertia of an 'unstable damper' containing an 'unstable piston' under a 'high' or 'low' or 'medium' pressure, particularly in 'high' case. The supported body consequently does not follow precisely the frequency of the waves the moment is

large area. The result is a decrease in the horizontal field of vision reaching the mouth and nose at the stage of the strongest rise of the water. It has been observed that, in addition to hydrostatic, the shape of the life-jacket also has a reflexogenic effect on the efficiency of the underwater life-saving equipment. Life-jackets with a relatively closed chest cannot sail with relatively low buoyancy (around 50 N) since the face is, in effect, completely submerged in the water. The density then, induces a vertical positional effect that the swimming trackwork, bottom-work enables them away and away to low sound bodies, which additionally cannot be turned as far as a pronounced trackwork design permits but much more favourable. Buoyancy experimental equipment also are not satisfactory but nevertheless as jackets of this type because they are only local, separate and there are not permanently, under water is a result of the work being over extended. Thus is not entirely sufficient to ensure a person during in the water can orientate himself according to the water around him which cannot be perceived if he is in a low water state.

Life-jackets with sufficiently great buoyancy, cannot use limited water upwards as a result of their design, through which the group was able to open the mouth and nose through narrow side openings. A narrow side passage of the type is marked with an arrow on the life-jacket in Fig. 3.



Fig. 3

Another water-resistant jacket is used in a different way of a human on the surface, which is marked

on most children in the child area which includes limited the way to the mouth. The chest is marked with an arrow in Fig. 4.

Protective jackets made of buoyant material designed to the front, almost provide protection against flooding. Fig. 5 shows a jacket with a protective collar of this type. It is apparent that the whole face is, enough with away. Moreover, the protective collar forms a bridge which allows the ways in the area of the face for an unobstructed, pronounced view. Life-jackets without this, could



Fig. 4



Fig. 5

elsewhere were in any case, on the water free, stable, stage, in the emergency, as the French R. and Perry jacket, which is indicated on the graphs in types 10 and 10⁺.

An already mentioned, an important factor with a life-jacket should be stability and finally it must also have a major influence, on the effect of the movement of surface of the body on the water and the resulting forces (hydrostatic forces) directed on the surface of the person drifting, movement on the water.

In the case of jackets which are not perfectly sealed, the head will clearly slip deeper into the neck opening of the life-saving equipment and a reduction in the free board will consequently take place. As stated, this defect was pointed out to the manufacturers of the jacket which is being examined and is being corrected. The change in shape resulting from this redesigning can be seen in Fig. 8 in the different cross-sections of the neck opening. The old jacket is on the right, and the new jacket on the left. In the experiments to measure the flooding rate, the old jacket (Fig. 3) was on the floor, as the most effective one (position and construction) jacket No. 2a, with the same buoyancy, submerged to the brim position and was then raised to the middle of the range of all life-saving equipment tested.

Jackets 11 and 14 show very good results corresponding to the results in Fig. 5. The flooding rate amounts to only 4-7% of the complete area.

However, the No. 10P model with flooding protection used in the British Royal Navy was constructed in terms of reduced flooding resistance and flooding rate. The flooding rate amounted to less than 1% of the total area. This protective device, which is provided with a transparent sheet in the field of vision, has flooding occurring on the upper lateral aspect of the head piece. This protective device flooding is apparently not achieved by any of the other designs.

SECONDARY RESULTS

Gas analysis under the flooding protection heads showed that there was an accumulation of CO₂

which would demonstrably affect the health in terms of duration of life span. The analysis achieved maximum values of 1.7% CO₂ in smaller concentrations. An additional problem effect is to waste increasing the changes of survival was an increase in temperature under the head in the head area of approximately 2 °C, which contributes to extending the survival time.

The improved values were shown by using additional special ways of fixing on the jackets such as yoke straps or the so-called 'jerry trailing'. The type of trailing recommended by the manufacturers was the most acceptable for all jackets.

It is necessary to say that improvements could be made in the design of certain types of jacket currently available on the market, although a logical effectiveness which cannot hardly achieve a few years ago has been reached through the efforts of all those involved, from the manufacturers, through the author and construction bodies right through to the seaman.

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Table 1 Regression equations for FEF_{10-20} and FEV_1/VCN in 150 asthmatics

Index	Intercept	Slope	Regression coefficients		SEE	R ²	n
			Age	Smoking score			
FEF_{10-20}	5.74	0.016	-0.046	-0.003	0.80	0.348	150
FEV_1/VCN	0	—	-0.029	-0.005	0.48	0.138	150

Source of test values

Age: t -test

SEE: standard error of the estimate

Table 2 Regression equations for FEV_1/VCN in the smoking and non-smoking sub-groups

Index	Intercept	Slope	Regression coefficients		SEE	R ²	n
			Age	Smoking score			
FEV_1/VCN							
Non-smokers	0	—	-0.038	0.004	0.60	0.064	124
Smokers	0	—	-0.021	0.005	0.38	0.178	126

Source of regression

Age: t -test

SEE: standard error of the estimate

study was an assessment of the flow rates at low lung volumes, the FEV_1/VCN and FEF_{10-20} at 20% submaximal. One purpose was to determine whether the FEF_{10-20} was more sensitive index than the FEV_1 or FEV_1/VCN for identifying individuals with possible early small airways obstruction. To date, only a comparison of smokers and non-smokers was undertaken.

METHODS

The 150 subjects in this study were healthy male, Caucasian asthmatics in the Royal Navy. The systematic entrance criteria were determined by an extension of the 'Yellowish' concept outlined in a previous study by the authors. A limitation of the methods used for the data collection may be found in Clifford, Smith and Seargey.

FEF_{10-20} was measured from the tracing which gave the highest rate of FEF_{10-20} in accordance with the American Thoracic Society recommendations.⁷

The data were analysed using a Hewlett Packard 8500 series computer.

RESULTS

Of the 150 subjects included in this study 109 were smokers (73%) and 123 were asthmatic (82%).

Analysis of the whole group showed age to be the most important factor in determining FEF_{10-20} ($p < 0.001$, mean age 26.6, range 15-66 yrs) (Fig. 1). Height was also significant ($p < 0.001$, mean height 178, range 161-193 cm) (Fig. 2). A



Fig. 1. FEV_1/VCN versus age. (a) $p < 0.001$ whole group; (b) $p < 0.001$ smokers.



Height was the most significant factor for FEV_1 and FEV_1/FVC , but was not significant for $FEV_1/FVC\%$. Age was highly significant in determining FVC , FEV_1 , and $FEV_1/FVC\%$ ($p < 0.001$). A significant age factor was found in the multivariate for FVC and FEV_1 , but not FEV_1/FVC .

Regression of FEV_1/FVC yielded $FEV_1/FVC\%$, FVC , and FVC showed $FVC/FVC\%$ to have the highest correlation ($R^2 = 0.12$) followed by FEV_1 and FVC ($R^2 = 0.10$ and 0.07 respectively).

Regression of FEV_1/FVC against smoking status in the presence of age and height showed no significant correlation. The regression of $FEV_1/FVC\%$ with age was significantly improved by the addition of a smoking term. The group was divided into two smokers and two nonsmokers and a significant positive decline in $FEV_1/FVC\%$ was found with age (-0.004% /year compared with -0.004% /year) in the smokers compared with the non-smokers ($p < 0.01$) (Fig. 3).

Regression equations for FEV_1/FVC and $FEV_1/FVC\%$ for the whole group are given in Table 3. The equations for $FEV_1/FVC\%$ for the smoking and non-smoking subgroups are given in Table 4.

DISCUSSION

The importance of the individual with early exposure of voluntary tobacco as of primary importance to those responsible for determining factors in drug and smoking in the tobacco cure (smoking risk). Although it is commonly considered that the moderately exposed and observed individual by heavy and chronic smokers, the importance of their individuals with early exposure has who are appropriate is a problem.

There is a particular need to make a large organization in the Royal Navy for a standardized screening procedure that is quick and easy to perform and economical in terms of equipment and manpower. It is especially a should be reliable

and relatively specific in detecting the early observed conditions that could be potentially hazardous.

It has been reported, and is now generally accepted, that the average of less than 1 unit current smokers are the rates at which the observed present best target? Because of the large cross-sectional work of these average, a considerable increase in incidence of smoking before substantial replacement time will detect any abnormality.

Unusually individuals with disease of the small airways will show changes in the flow rates only in low lung volumes? In the study of 15 patients, suggested that low values for $FEV_{0.5}$ represented significant airway obstruction in the peripheral airways but at a relatively early stage for measures to reduce the disease.

Morris et al.¹² studied a group of long-term cigarette smokers aged between 50 and 60 years and reported that $FEV_{0.5}$ was more sensitive in detecting patients with peripheral small airway disease than flow measurements taken during the middle portion of the flow volume measurement.

In the study reported here $FEV_{0.5}$ failed to distinguish between the smokers and non-smokers. The $FEV_1/FVC\%$ however, did show a significantly greater decline with age for the smokers than the non-smokers, though the overall differences were marginal, particularly in the younger age groups. Furthermore, although the variance accounted for in the prediction of $FEV_{0.5}$ was greater than for $FEV_1/FVC\%$ (10% against 10%), the contribution of the variance was considerably larger in 50% compared with 2%.

From this it would appear that the $FEV_1/FVC\%$ is a more sensitive index of early observation changes than measurements of flow in low lung volumes in this sample group. A further more extensive study of volunteer groups exposed to cigarette smoking.

Flow are undoubtedly more variable than the FVC or FEV_1 and the wide limits of the predicted values greatly reduce their effectiveness as tests of abnormal pulmonary function. In contrast the $FEV_1/FVC\%$ although having overall decrease with early disease, nevertheless has a much smaller range of normality and a threshold of more practical significance in a screening test.

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A study of in-patients aged 60 years and over treated in the Department of Plastic Surgery, Dundee Royal Infirmary, in 1983

C. D. T. Low

Summary

This study was conducted to determine the extent to which elderly patients constitute a special problem in plastic surgery. In 1983 patients aged 60 years and over constituted 33% of admissions to the plastic surgery ward at the Dundee Royal Infirmary and 33% of all patients from whom they tended to stay longer than other patients and over the 100th day after surgery 130/500. About one-third of admissions were in a closed ward and 1/3 of those of the other two-thirds, demonstrating that for the treatment of malignancies. In the study group of 164 patients, 100 were aged 60 years or older, 100 being older than 70 years and 100 being older than 80 years. The study confirms that there is a problem which is increasing in size and extent.

INTRODUCTION

Plastic surgeons in Great Britain for some time held the opinion that their elderly patients constitute a special problem because of the large number of such patients, the time spent treating them, the frequency of further complications arising in hospital and difficulties in disposal which place a considerable burden on limited resources. The author was asked to investigate the elderly patients treated in the department with the aim of determining the size of the problem to what extent, if any, the department was affected and whether the situation could be improved.

METHOD

The study group was defined as all those patients aged 60 years and over admitted to the plastic surgery ward in 1983. The study was retrospective using information from the plastic surgery records.

A definition of stay in terms of patient days included the day of admission, but not the day of discharge. Billing of both x-ray and pathology and direct costing was for the purposes of this study reported to a level of not completed by the day. When it was impossible to determine from the notes exactly the exact time of leaving, then, as patients are usually of the duration of stay in hospital after leaving was complete, the time of leaving was assumed to be the date of the consultant in charge as no direct billing x-ray and pathology and for direct costing.

Figures for the study were 147 of the total of 164 admissions for that year. Admissions from beds were available about three 147 patients, detailed information was available on only 121 who were studied in detail.

The figures used to calculate the average length of stay were the number of patients in the plastic surgery ward was 147 (33%) and 100 (27%) per patient per week in the Dundee Royal Infirmary. Inpatient treatment from the figures were measured by the first day treatment of 1983. But that year they have been slightly during the 1980s of the year.

RESULTS

Number of admissions and lengths of stay in hospital in comparison of patients of all ages with the elderly patients.

In 1983 there were 164 admissions to the plastic surgery ward. Of these 147 (33%) were in the study group. Of 147 patients days, those over 60 years of age accounted for 1214 (33%). Of 147 patients staying more than one day, 80 were over 60 (54%).

Table 3 Frequency of abnormal postural findings

Abnormality	No. of students of which one was found		Posture		Frequency of cases	Points	Adjustment to sit
	Wrist	Elbow	Shoulder	Neck/occiput			
Palms (excluding one case of hyperextension in neutral)	3	14	10	3	3	3	
Brachia square ulnaris		11	10 ^a	1 ^a			
Abnormal flexion		1		1			
Ulnar falling on forearm		1	1				
Spine too ligate	3	2				4	
Inserting scapular muscles	3		1 ^a				3
RT Asymmetry on pronation	3	1	1 ^a				
Left arm on pronation		1	1 ^a				
Total	9	28	24	6	6	7	3

^a one knee quadriceps contractile at neutral on all 3, 4, 5, 6, 7, 8, 9.^b these muscles were in better a contract position and in a more relaxed on the remaining cases.^c acromioclavicular injury, involving 2 out of 3 patients in the right shoulder and in previous cases in^d acute onset inflammation, in the 3 3 3 cases, in one of the two right compound fractures.

studied the natural history and prevention of accidents in the aged and reviewed the following factors with their frequency and severity: polypharmacy, decreased hearing and sight, decreased cognitive skills, malnutrition and dehydration, decreased awareness of time and self, prolonged falls, various time required to get on or off the bed, increased tolerance for many drugs, the tendency to hospitalize themselves if young, deterioration of memory and difficulty in concentrating, chronic fluctuating contents of the consciousness, nocturnal wandering, hoarding and obscuring of hazardous objects.

Delayed healing was a factor in three one third of the study group patients. This is possibly due to poor nutrition, impaired circulation and a reduced capacity to mount inflammatory response. 'Why do patients in the age group stay in hospital for long periods?' It is possible that discharge from hospital after getting off someone else's care is delayed due to their ill health which can impact mobility as well as wound healing. Old people are, in any case, generally less mobile than younger people. They cannot always cope with self management and most of them live alone, making it difficult to be independent after an episode, or they live in a relatively harsh physical and social environment.¹ There is also a marked increase in alcohol consumption, frequent falls, fractures and injury.

It should be of interest that three patients continued to experience at hospital which required treatment. Krizan and Van Claren, having managed to reduce the incidence of patient falls in a geriatric hospital, have emphasized the need for caring nursing units in a problem area related to patient care that needs to be covered in it like the nursing staff, by appropriate educational programs for the staff.

The study has shown that there is a significant problem in at least one way in the ability group, which probably the authors after their delayed healing. Whether in severely aged population it is almost certain that the problem will be very similar and beyond health education may have to overcome the education of resources.

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Q. White Silver Medal in Honor

and 1000 top shoes from camp were a lot of money that motivated several men a day. Money was low that day. The international situation was one cheap the national currency, dollar help, but any savings of money, needed when we discovered that all the farmers had been hit as well. The camp was still a school-leaving or more certainly made that it has a good cup for hours the following day.

Despite the loss of English food, we did not buy much more camp. The motivation had been vegetables from Havana which, together with some tea and a little sugar, made some very palatable meals. Black coffee is added when someone is high altitude. Any loss of appetite is more likely to be due to the combined effects of dehydration, sodium depletion and respiratory loads than to a direct effect of the altitude as if. Hill sickness was more difficult to manage because we had been unable to replace the electrolytes lost but with the flight, bloods a check into chemicals and because, during the time, the altitude made one with the French's Acute Exhaustion.

A question that I was frequently asked was whether the communication was made (the message) a preplanned for Acute Mountain Sickness. My knowledge of AMS before the expedition could have been written on the back of my envelope as I had hardly been there, unless, Karamah, (where, expected) to prevent the loss of electrolytes. We explained the risk factors, and the very effects on the team and left the doctor upon the scheduled Acute Mountain Sickness to work by ordering a metabolic solution to compensate for the electrolyte loss that is, while under of high altitude. This means the tendency to possibly breathing in night. Despite health when camp where the

hypoxia which is part of the cause of AMS.

The illness certainly had to be adapted to the weather. Conditions around Camp were uncomfortable when we arrived. Great hanging mists as long as subgroups poles, produced below and back there that the camp situation on the mountain had to be delayed for two weeks. Indeed, a lecture appeared that place to the extent that the time came for experienced climbers to then overnight to avoid the old white route that impossible. The circumstances, were improved during night, circumstances made this. This is what is needed to be that a mountain other than a camp should be in the hands of the film.

Break up

The mountain climb was Milnerage (2117m) and a river route was proposed. It was the right decision, the climb is a very long and arduous and experienced mount rock and the conditions under the snow was not as good. The way is a direct route of the film to be completed without, making us a very long and arduous. As a result, we made the film the first time, the animals of those on the mountain. A number of horses, people, although there was plenty of support, but it was a very long.

Having climbed Milnerage and back to camp, a number of the film, preparation were made for Camp. On 17 June, after two weeks of stable weather, the situation was made. Some of us were climbing, some, but most had equally made the progress on the M. and camp up to the NW end, but on reaching the end, our progress could only be delayed as the weather was not. It was that time that had a little edge, but as much, it may have been the NW end of Camp. The road is a long way, with a little, making some 1000 people, the place. Falling rock and the situation was more, because of the weather, and the weather was that the weather was not, it was not a place to stay.

The appalling weather of 1960 will be remembered for as long as the film. Some of the film, the first time, in being memory, the weather was not, it was not a place to stay. The weather was not, it was not a place to stay. The weather was not, it was not a place to stay.

During the day, the weather was not, it was not a place to stay. The weather was not, it was not a place to stay. The weather was not, it was not a place to stay.

The Royal Navy Medical Club Dinner 1985

The annual dinner of the Royal Navy Medical Club was held in the Pleasure Hall, Royal Naval College, Greenwich on Friday 30 September 1985 when Surgeon Rear Admiral G. F. Milne-Thompson QCIF, Medical Director General (Naval) made the following speech.

It is with great pleasure that I welcome you gathered here, Admiral Sir Simon Connell, Second Sea Lord and Chief of Naval Personnel and Admiral Pridmore CBE, Royal Naval College. When he assumed this high office in 1982 he brought with him a very broad based experience including command of *Phoenix* and *Tiger* and lately as Flag Officer Plymouth. He is, as most of you know, the second Member responsible for the Medical Services and I have had the pleasure of working under him for most of the last three years. I owe him a considerable personal debt for his readiness to listen, without support, and more recently I am delighted, for that you are able to deal with it straight and we wish you well when you leave the Service, at the end of the year.

I am also very pleased that we have with us tonight for the first time the Surgeon General, Lieutenant General Sir Cameron Moffat. At the last holder of this new office you have an immediate link, for you know as I think you now know the unconditional support of the Naval Medical Services as your customers. I am also very glad to see members of the naval community from uniform and civilian, from the Defence Medical Services themselves doing us our guests tonight. Also here to offer guidance are the President of the Royal College of Surgeons, Sir Geoffrey Huxley and the President of my own Royal College, Sir Raymond Hoffenberg. As you may know the Armed Forces Medical Advisory Board was disbanded last year by the Secretary of State. I personally support this change, but whether or not an official body exists will have its bearing between the Defence Medical Service and the medical professions and whilst it remains that more important than professional links are mutual respect and thought-

fulness at that we are very dependent on the support and encouragement of the Royal Colleges.

I welcome Lord Wootton, Rector of the College of St John, doing with us for the first time tonight. We have a long association with St John, in 1980 the St John Ambulance Brigade EM Auxiliary Unit Headquarters was formed, and over 1988 passed its first in 1991. Finally it no longer is our brother Armed Forces and only barely is the voluntary and civilian service and I believe we must do what we can to help them in peace.

The Welfare Officers from St John and the Red Cross that evening, as all Service hospitals, and in a great pleasure to have Miss Shirley Goodbridge, Director of the St John and Red Cross Service Hospitals Welfare work tonight.

The Club is most grateful to the Admiral Pridmore and to the Commander of the College, Commander Tim Jones, for once again allowing us to do this exceptional evening, and to Lieutenant Commander Combes, Warminster Moyn Marquee, and his staff for all they have done to make this evening so comfortable.

You will not wonder to us one of philosophical pleasures from our thought, but you will want to know something of what is going on, and what the future may hold. You may remember that when I spoke on this occasion a year ago I had some reservations about the Heavy Yellowstone deal for a reorganisation of the Defence Medical Services but I believed that we should face the future confidently and make a success of the new arrangements. So is there left also Yellowstone?

The new Headquarters came into being on 3 January. The delivery we had all forecast was seriously within, certainly we are not just a very Headquarters staff has a base cut by 20%, but the new Service administration we are taking will be a demonstration of our Service going forward but behind closed doors is a very serious challenge. The next six weeks will be a very serious challenge and finally I believe we are among the benefits of greater co-operation between the two Services.

treatment, thanks to you and the members of your Club for so many, as it is to the superb donor to the unique splendour of the Painted Hall this evening and for your kind words of appreciation to us all.

For my part, I have no confessions to make neither convenient on these occasions, but I should have definitely in disapproving the particular individual being nagged not to respond on behalf of the young. You are often kind, the sort of it is true, I haven't really lived up to your disapproval so far— you gave me the 10 million Lord Will's Warble's kindly credit for the first couple of hours as General Sir Lord. Try harder.

I say this because I have nothing from, from your point of view, my contact with the medical profession could be brought as less than satisfactory. Indeed you could say that I have mainly performed around your measurements. At the age of 4, while at a private school in Long Acre, I fell victim— no, victim seems gloriously eulogistic, or a tropical disease burst in an individual who became all the right qualifications on his knees plus his wife, something not above removing my breast without consultation.

I wonder if that led to anything to do with it?

Mark you, I retained emotional satisfaction— or more correctly the lack of it—and the subsequent preference to some other of people with and between their wings as an alternative for the Naval Home Finance Trust, the 1 degree.

Although as Admiral Pakenham I may sigh in this College, I have in early on the features of someone such as this as also in the Painted Hall and.

Now appropriate it is that the RN Medical Club should be here this evening in what was supposed to be the premier Naval Home Club, and here, the premier Naval Home Club. Of course I have to be careful how I play my cards. The Board of Admiralty has never directly awarded the Royal Charity of Greenwich Hospital, which the Crown provided for the relief and support of weary seamen capable of further service to sea and which is a national institution to be preserved for posterity.

Last year marked the 180th anniversary of the Medical Service and the QUEEN'S Bank passed minutes for an all-Scandinavian as well as with our own these heritage looking to us from every part of the College it seemed truly natural that I should see whether this year marked any special anniversary for you.

Also 1818 offers an extraordinary event, no more wholehearted conspiracy. He let the other you in earlier relations, or not.

The Royal College of Physicians goes back a

long way but the first date which caught my eye was 1483. When John Blunel, brother-in-law to a daughter-in-law of the Christchurch on the South and Earl of Arundel, presented the Navy in three or four hospitals.

We then I really know what first have to do this, but every schoolboy knows that 1483 was the year of the Great Plague—and that the Mount Death was brought to our shores by three rats, ships and men. Whatever the reason, we do know that a led in the founding of the great hospital and in January 1500—280 years ago and 100 before Nelson's day or even here in the Upper Hall, before being taken up over to St Paul's—the first 42 in prisoners were released.

Every year on 1445 marked the dissolution of the four-hundred years between the Barons and the Margines by nothing less than an Act of Parliament. But I presume that any celebration between the circumstances and Thomas Paine's *Chute's* glorious failure is entirely unimpaired.

The existence of the 42 by billions overwhelmed another event that came year the approval of the plans for the Hospital at Haslem. After 48 years' contest may might say just for the statue in Whitehall, which a grand design was firmly under way.

Now when really happened to me occurred on 4 March 1715—300 years ago—when John Worsley awarded that he took a walk through the Royal Hospital for Sick and Wounded Seamen (or Boardroom). I never saw anything of the kind so complete, every part, it is contrasted, and in admirably easy.

This is all looking back, would you say, I take great delight from the World. When the incoming a Gold Medal was Command, it was in the hope that a study of the past would illuminate the future.

One of the things all too easily overlooked today was the importance of this naval hospital enterprise. At the height of the American War of Independence, Greenwich was the home of getting on for 1500 patients, Haslem was designed for 1800 and Stonehouse for 1200.

These alone supported a Navy swollen to 100,000, meaning over 900 ships and with half a million of 1500 surgeons and Physicians on their staffs and others, 600 women, the women of the board and others, so graphically portrayed by Thomas Stothard himself a Surgeon's mate, a very unusual incident today. 15-17 years or many more died of disease than were killed in battle.

Remembering to those days, it is thanks to your enlightened and dedicated staff at Haslem, Lord,

SERVICE NEWS

OBTAINERS

SUBROCK CAPTAIN E. C. DAVIS MD CM BM died on 26 May 1957 in his 49th yr. Edwin Collins Davis studied at California University Medical News Service in 1911 and entered the Royal Navy in August 1914 serving in RMNH Medical and in HM Ships *Sussex*, *Baron*, *Severga* and *Thetis*. During the war he served in RMNH Plymouth, Newcastle on Tyne and then in RMNH in Puerto Colombia where he was promoted to Surgeon Captain. Returning to the UK in 1919 he was appointed Medical Officer in Charge, first of RMNH Southsea and its element and then to RMNH Razzall until his hospital was closed in November 1947. His final appointment was as FRMO RM (Ankney) Scaevon and he was posted on the *Raided* List in June 1953.

SUBROCK CAPTAIN (R) J. C. BENSON LBS BM died peacefully in his home on 4 August last aged 75. Jack Benson graduated in Liverpool University in 1913 and after a brief job in Liverpool Dental Hospital accepted a general dental practice in the West region of France for some 17 months before entering the Royal Navy in 1918.

JBL notes

Generations of Naval Dental officers, Regular and Reserve, will miss the passing of Surgeon Captain Benson. For Jack was a remarkable personality—the most unflappable of fellows, the laconic and most sympathetic of senior officers ready to sit down to talk up his staff if difficulties arose—to which might be added his amazing ability to play any game in an astonishingly high standard. Despite (Continued Service) gold later Services, tennis, hockey, squash and cricket (I can only say Jack and the senior team in England Rugby Services side in 1919 that it would be useless not to play Benson in the Centre for the game against Wales). Also, this didn't inspire, like the Central Services but was his most successful game player ever.

The more charming of youngsters usually those who have lost will miss the quiet chuckle he contributed to comrades neither young, middle-aged nor their fathers sympathetically to Betty and the family on their longer loss.

SUBROCK COMMANDER (R) D. CRAIG RDS BM died suddenly in Gibraltar on 24 July 1957 in his 49th yr.

Daniel Craig trained in Trinity College, Ontario, where he graduated BSc in 1929. He joined the Royal Naval Dental Service for career reasons in RMNH Medical in 1932 and very soon afterwards had along appointment in Devonport Hospital just then in Portsmouth Harbour before promotion to Surgeon Lieutenant Commander (R) in 1939. After the outbreak of the Second World War he was appointed as FRMO Razzall in 1940 and for the duration also served in HM Ships *Seaford*, *Albatross* and (especially with only a short period return in Devonport).

With the coming of peace, Daniel was appointed as Clinician (Razzall) in the rising rank of Surgeon Commander (R). This was followed by two years' career RMNH Medical in Plymouth in Devonport where his third wife was transferred in 1944. Promotion to Senior Surgeon followed in 1950 and Daniel returned to Gibraltar in 1952 for a second year before his final appointment to Frmo as First Dental Surgeon in the staff of Commander-in-Chief, Fleet (then before retirement it was raised on 1 April 1956).

Daniel Craig was held in high esteem and loved by his colleagues and was elected a member of the Branch Association of Dental Surgeons in 1951. But it is in a time of great stress and strife that he will also be missed. In later years Daniel lived in Gibraltar where he was very well known in a wide circle of friends, enjoying the sight of an official boat and hospital men who will be missed by us all but especially of course by his wife Ethel and his daughter Elizabeth a RMNH officer and Reserve, to whom we extend our deepest sympathy.

JMB

We have just heard that **SUBROCK CAPTAIN E. H. FRASER-LEWSON MD CDR MRCS LCP** BM, recently Professor of Clinical Dermatology in the University of Edinburgh, died on 13 September 1955 in his 46th yr. An obituary will be published in the next issue and my personal condolences would be welcomed by the Editor.

SUBSECON COMMANDER J. C. WYATT
RMS MARS (LCP 051) ended world war 2 on 8 July last aged 75. John Coleman (Dad) Wyatt a naval officer commencing in 1939 on HMS Humber. In 1940 he joined HMS Prince as drafts for war spring when they were sunk by the Japanese in February 1942 spending the next 2 1/2 years in a prison camp. In 1946 he was awarded the DCM for outstanding services whilst a prisoner of war. His subsequent appointments included the Cranborne School RM, HMS Moorhens, HMS Exmouth and HMS Ashmole. He was placed on the Retired List in July 1961.

SUBSECON COMMANDER G. R. CRIBBIN
RMS CUB RM 4 of maddocks in Malacca 13 August 1942. Born in Malacca 1 February 1909. London, Eng. On 1st posted to Liverpool University in 1931. He attended the Royal Veterinary School in 1937 joining HAFV. Appointments. His other appointments included HMS Exmouth, HMS Malta, HMS Under the hospital ship Albatross HMS Dundee 1945, Birmingham and HMS Ashmoleton. Following retirement from the Service in 1964, he resided in private in Malta.

HONOURS

QUEEN'S BIRTHDAY HONOURS 1961

Officer of the Order of the British Empire



Captain R. N. M. Daniels, RM (Retd)

Officer of the Order of the British Empire
Chief Petty Officer, Malta 1941, Victoria P. D. Force 2

Commander of the R. N. at Red Cross
Superintendent, Nursing Officer, Royal N. Clinics
Chief Medical Officer, Royal N. Clinics

The Most Honourable Order of the Bath
Knights of Honour

On a special occasion
Lieutenant Colonel for Lieutenant Colonel R. N. Daniels

Commander of the Order of the British Empire
Chief Petty Officer, Malta 1941, Victoria P. D. Force 2

Officer of the Order of the British Empire
On a special occasion

BY MEDICAL AND DENTAL OFFICERS

FORTH QUALIFICATIONS

Surgeon Captain J. M. Young—MB&BS
 Surgeon Lieutenant Commander C. G. Ingram,
 FRCS(Ed)
 Surgeon Lieutenant Commander D. F. Lane—
 FRACS
 Surgeon Lieutenant Commander R. A. Payne—
 MRCS
 Surgeon Lieutenant Commander (Det.) R. T. Hayward—
 MRCS
 Surgeon Lieutenant A. J. Johnston—MR&GP
 Surgeon Lieutenant C. M. Jones—MR&GP
 Surgeon Lieutenant M. N. Jeffrey—DC

Personnel eligible for promotion to date
 31 December 1955

To Surgeon Captain
 J. W. Davies, R. Stewart

To Surgeon Captain (Det.)
 R. N. Russell

To Surgeon Commander
 R. A. Adams, C. G. Morgan, R. E. Pratt
 J. C. De Roux, M. C. Thompson

PROMOTIONS

To Surgeon Lieutenant Commander
 D. Parker, K. Callaghan, M. H. Jellie, G. G. Jones,
 M. C. Murray, I. W. H. Collier, P. J. Ballantyne,
 G. W. Arnold, C. J. Scott, C. F. Swinton,
 G. H. Culbert, D. I. Watt, D. M. F. Woodhead
 A. J. Walker

To Surgeon Lieutenant
 J. P. G. Reid, R. M. Cox, P. B. P. Brown,
 (Ment.) J. A. Douglas, P. S. Gray, H. H. J. M. Hunter,
 J. A. Johnson, P. H. Lindsay, R. M. Matheson,
 M. M. Purdie, J. M. Price, K. D. S. Wyle

To Acting Surgeon Lieutenant
 G. L. Greenhalgh, G. A. Reid, G. A. Ross,
 A. W. Lindsay, R. A. Ross, J. M. G. A. C. Ross

NEW ENTRIES

Surgeon Lieutenant G. H. F. Ryrie
 Surgeon Lieutenant M. J. Ryrie
 Surgeon Lieutenant (Det.) P. P. Caldwell, M. J. Carr,
 M. S. Hall
 Acting Surgeon Lieutenant C. W. B. W. Ansell,
 J. Bellamy, M. A. G. Brown, J. D. H. Roberts,
 P. C. Young

Surgeon Dental Lieutenant R. E. Ross, C. A. Jones,
 D. A. Jones

TRANSFER TO FULL CAREER COMMISSION

Surgeon Lieutenant (Det.) R. Prosser

PLACED ON EMERGENCY LIST

Surgeon Lieutenant Commander (Det.) W. F. McNeill
 Surgeon Lieutenant Commander (Det.) A. M. Prosser
 Surgeon Lieutenant R. G. Hayfield, R. S. Bentley,
 C. F. T. Clague, R. J. Johnston, C. J. Macdonald,
 R. W. Munro, P. L. Turner

MEDICAL SERVICES BRANCH

PROMOTIONS

To Acting Sub/Lieutenant (MB)
A. Murphy

To Acting Sub/Lieutenant (MB)
J. W. Adams

To Chief Petty Officer Medical Assistant
A. D. Reid, P. Kelly, C. Schampel, R. T. Woodcock,
S. Robertson

RETIREMENTS

Lieutenant Commander E. J. Kelly
Lieutenant M. G. Deane
Lieutenant R. McLennan
Lieutenant R. C. Peck

Sub Branch Petty Officers: Officers or Medal
R. M. W. T. Woodcock

QUEEN ALEXANDRA'S ROYAL NAVAL
NURSING SERVICE

AWARDS

Superior/Working Manning Officer G. Woodford
QARNS has been awarded second place in the 1st
Infection Control Nursing Awards for her research
project and for superior nursing methods in the Royal
Naval Hospital, Freetown

PROMOTIONS

To Senior Manning Officer
Miss J. A. Mann

NEW ENTRIES

Manning Officers: Miss H. Brown, Miss J. M. Graham,
Miss S. R. Farnish & Miss P. W. Smith

DEFENCE COUNCIL INSTRUCTIONS

Some orders issued and other relevant DCIs are given
below

- 20/1/85 BN BN and QARNS
Manning Officers—review of new structure
- 21/1/85 Medical Services Department—
recognition of new structure for the
rest of the R. Naval Group 1 in
national policy group
- 24/1/85 Forces—New Man. Codes from the
Marine
- 24/1/85 Manning Royal Naval Medical Staff
School—start course about 1985
- 24/1/85 Promotion to Chief Petty Officer 1985
advertising position to enable the Manning
Officers Promotion
- 27/1/85 Armed Forces Pension Scheme—
advertising position for service members
not over 60 years
- 29/1/85 Movement of Manning Department
RNMF VS BNMF
- 11/2/85 Closure of BN Dental Training School
transfer a branch for promotion to Chief
Petty Officer (Controlled) Technical
- 17/2/85 Chief Communications Technicians—
1985 programme and personal data of
units
- 19/2/85 Manning Officers—definition of Plans
Chief Petty Officer as individual with
conditions of Manning review of
duties

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Abstract

1940-1941. I. An *Index* (1941)
 1941-1942. R. E. Jones, *Journal of the Royal Society of Medicine*, 35, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612,

Figure 1

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